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# Cleanings in Bee Culture

VOL. XXXIX

AUGUST 15, 1911

NO. 16

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Heads of Grain  
Our Homes



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## THE A. I. ROOT COMPANY,

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VOL. XXXIX

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## Editorial

ARTICLE by G. M. Doolittle on page 487, on how to keep comb honey, is seasonable and valuable. Don't fail to read it.

MR. J. A. HOHNBERG has been appointed State Inspector of Apiaries of Minnesota, with headquarters at 1241 Edgerton St., St. Paul.

### THE NATIONAL CONVENTION.

REMEMBER the National convention at the G. A. R. Hall, Court-house, Minneapolis, Minn., August 30 and 31. A full program for each day's session, with hotel accommodations and other features, is given in this issue in the advertising section, page 22. GLEANINGS will have one or more representatives at this convention—probably E. R. Root for one. While this has been a decidedly off year, there ought to be a large local attendance at least.

### REPORT OF THE OHIO FOUL-BROOD INSPECTOR.

THE Ohio Department of Agriculture has just sent out the first annual report of the chief foul-brood inspector. It contains 16 pages, showing what has already been accomplished in the way of eradication of the disease, the amount of territory in Ohio involved, and a full text of the law itself. In addition it gives a brief description of American and European foul brood. Those interested in Ohio can doubtless secure a copy by addressing the Ohio Department of Agriculture.

### HONEY-CROP REPORTS.

THE situation has not changed materially since our two last announcements. Reports continue to show that there will be a very light crop of clover and basswood—one of the lightest ever known. While there was a fair crop in California, the prices on honey all over the country should be firm. Whether they will advance or not will depend. Bee-keepers should not make the mistake, however, of waiting too long, for now is the time to get best prices. Write to the largest buyers, and accept the best figure you can get. If you wait, expecting better prices, you will be almost sure to be disappointed, as the best buying season will soon be over.

### SACCHARIN BARRED FROM USE IN FOOD AFTER JANUARY 1, 1912.

IN our last issue we spoke of the decision regarding saccharin being held up for a time. We have now received a circular from the United States Department of Agriculture, stating that saccharin will not be allowed in food after next January. 'Tis well; but we do not see why the authorities should have held up the decision, unless it was to allow the manufacturers who had a large amount of the saccharin in their food products to dispose of them to the people.

### THE DEATH OF THE LAST SURVIVING CHILD OF THE REV. L. L. LANGSTROTH.

WE regret to have to report the death of one of the members of Mr. Langstroth's family. The following letter will explain:

*The A. I. Root Co.*:—Thinking it will be of interest to the readers of GLEANINGS, I write to inform you of the death of my wife, the last surviving child of Rev. L. L. Langstroth. She passed away July 16 at 11:40 P.M., being 64 years and 4 days old. Roxabell, O., July 23. JOHN M. JAMESON.

A few years ago we had considerable correspondence with Mrs. Anna Cowan, another daughter of Mr. Langstroth, but of late years we have missed her pleasant cheery letters. When she passed away we have not been advised. Mr. Langstroth left so deep and lasting an impression on the field of apiculture that we are always glad to get any news of any of the members of his family. Perhaps Mr. Jameson can give some information concerning Mrs. Cowan.

### A NEW STYLE OF MAILING AND INTRODUCING CAGE; FOUL BROOD CARRIED IN QUEEN-CAGE CANDY.

ONE of the leading foul-brood inspectors of the country remarked to a member of our staff that he thought that foul brood was being scattered through the ordinary queen-mailing cages; that while, undoubtedly, some of the larger queen-breeders of the country were boiling the honey used in making queen-cage candy, there were some others that did not take that precaution.

Some stray reports have come in, tending to show that disease has been scattered in a few localities in this way. The responsibility, therefore, comes up to the manufacturer

of bee-supplies to make a cage that does not require the candy method of introducing. From present indications such a cage has been devised—one that will introduce a larger percentage of queens than could be secured from the candy method. The scheme provides for a flat wire-cloth push-into-the-comb cage that telescopes over an ordinary mailing-cage. The queen, on arrival, is released on to one of the combs. The wire-cloth introducing part of the cage is lifted off from the wooden part, and set down over the queen, released on a few cells of honey, sealed and unsealed brood. The cage is then pushed into the comb about  $\frac{1}{8}$  inch. In 24 to 36 hours the bees will tunnel under the strands of wire cloth projecting down into the comb, and release the queen without any action on the part of the apiarist. This plan of introducing is, of course, old; but the idea of having such a cage just large enough to telescope over a mailing-cage to save room is new. It was the late W. Z. Hutchinson who, if we are correct, guaranteed safe introduction in every case where this "push into the comb" cage scheme was used.

It involves the old principle of the Peet cage that was so successfully used over 25 years ago; but the Peet plan was much more awkward to apply than the one here outlined; and, besides, the construction of the cage was bad from the mailing point of view. Too many queens were lost in the mails. About that time the Benton cage was adopted by most of the queen-breeders; and the only feasible plan with such cage was the eat-out-candy method. But because disease is liable to be transmitted that way, GLEANINGS now proposes to go into a campaign urging the new way of introducing. This will not only eliminate the possibility of disease being carried in the mails, but insure a much larger percentage of safe introduction of queens.

Illustrations and a general description will be placed before our readers as early as possible.

#### CAPPING-MELTERS; WHEN AND HOW THEY DISCOLOR THE HONEY.

MR. R. BEUHNE, of Australia, a pioneer in the use of capping-melters, and the one who obtained the first patent in the United States on such machines, has in this issue, on page 489, the best article we have ever read. He says that while the cappings from old combs discolor the honey those from new combs do not when run through the capping-melter; that when cappings from old combs are allowed to drain cold, instead of being melted as they come off the knife, this discoloring matter adheres to the wax. If this is true (and Mr. Beuhne is an authority on the subject) it will be one serious objection to the capping-melter for the reason that most extracted-honey producers will use old combs because they have them, and because they will stand harder usage. New combs are objectionable unless they are well wired; and they will be rather expensive if one has to melt up old combs every three or

four years, buy foundation, and wire it into frames, for your new combs can not be satisfactorily used unless wired.

It would appear that probably 90 per cent of the honey will drain from cold cappings, when allowed to stand. Assuming that the remnant of the honey would be discolored when the cappings are finally melted, this remnant would be so small in comparison with the entire crop of honey that it is a question whether it would not be money in the pocket to let the cappings drain in the good old-fashioned way, avoid the heat, and then melt them when as dry as they can be.

Mr. Beuhne, while admitting that the cappings from dark combs will discolor the honey slightly, if melted immediately, argues that this slightly darkened honey can be mixed with the entire crop, and not show much. For bottling purposes we doubt if there are many producers on this side of the globe who would be willing to mix their darker honey with the white and gilt-edged product that is perfection itself.

The more that we test out capping-melters the more we are convinced that Mr. Beuhne is absolutely right in every thing that he says. We do not, however, share his conclusions of the practicability of the machines for table honey. In the production of a fine article the old method of draining the cappings and then melting is the more practicable.

#### UNCLE SAM CHASING DOWN THE MANUFACTURERS OF BAD FOOD; NO GLUCOSED-HONEY ADULTERATIONS; OUR DEBT TO DR. WILEY.

UNCLE SAM is doing good work in chasing down those who adulterate and misbrand food and drug products. It is noteworthy that quantities and quantities of packages containing tomato catsups have been found bearing on the label "Benzoate of Soda;" but in every case where this preservative is used, millions of bacteria from the decayed fruit used were found, showing that the proprietors of these food products had been using half-rotten tomatoes, on the assumption that benzoate of soda would prevent further decay. In all cases, these catsups were highly flavored, we presume, for the purpose of covering up and disguising the otherwise uneatable stuff. What has been done with catsups has been done with canned half-rotten fruit. No small wonder that thousands of our people have been suffering from dyspepsia.

Among other things found to be adulterated was a large quantity of eggs, which, while not "adulterated," were spoiled, and, therefore, condemned. Sixty-nine per cent of the entire shipment was unfit for food. Except for Uncle Sam's interference the whole shipment would have gone into the stomachs of consumers.

Among other things condemned as adulterated or misbranded were frozen eggs, alfalfa hay, flour, peanuts, evaporated apples, coffee, vinegars, maple syrup, condensed milk, and a great variety of drugs, espe-



cially of headache remedies. It was found in the latter that many and most of them contained highly injurious drugs, and that all of them were misbranded in that the claim was made that they were "harmless" (?) and general cure-alls.

Of the several hundred instances of condemned food made public in the last few days, not one relates to adulteration of honey. This would indicate that bee-keepers to-day are not having to contend with the cheap glucosed honey as they did before Dr. Wiley got the national pure-food law enacted five years ago.

If hundreds of cases of adulteration and misbranding are found to-day under rigid pure-food laws, what must have been the number of bogus food preparations before our food laws were enacted? It is a wonder that the whole generation of us did not have to go to the hospitals, the madhouses, and premature graves, to say nothing of the far larger class who have escaped all three, yet have been "ailing" all their lives and wondering what was the matter.

Special thanks are due to Dr. Harvey W. Wiley, Chief of the Bureau of Chemistry, for bringing about a new order of things—a condition where adulteration and misbranding are rapidly disappearing because those concerned in the nefarious business are being arrested and fined. No man in the whole national government has done more to preserve the life and health of the American nation than Dr. Wiley, for it is he who set the ball rolling in the first place. If you haven't written the President, urging Dr. Wiley's retention in the Department where he has done such splendid work, *do so at once*. We believe Mr. Taft means to do the right thing in the matter, and it is up to *you* to let him know how you feel about the work of so useful a man.

#### WORKING FOR AN INCREASE; AN IMPROVEMENT IN FEEDERS; A SCHEME FOR SAVING SUGAR.

WE have been conducting some experiments in building up nuclei into colonies. To that end we found that ordinary feeders give out the food too fast. Half a pint of syrup daily will start brood-rearing at almost any time of the year when the bees can fly; but, unfortunately, bees will take the half-pint out of the ordinary feeder in about an hour's time. So much food coming in *all at once*, then stopping short off, causes general excitement, making more or less of an uproar in the apiary. This unduly wears out the wings of the bees, makes them cross, and is liable to cause robbing, for the bees in the air will hunt high and low to find where this supply of food came from. This is a needless waste of energy and bee-life.

We believe that we have made the discovery (while not new it is new to most people) that our feeders as now constructed allow the food to be taken too fast; that means that the ordinary pepper-box feeder should

have all the holes soldered up but one or two. Out of such a feeder it will take a good-sized nucleus all day to take half a pint of syrup. The supply of food comes in just fast enough to stimulate brood-rearing, and yet not fast enough to cause excitement.

It is well known that a very light *steady* honey-flow will cause brood-rearing to go on at a more rapid pace than a heavy intermittent flow. We have decided that, for stimulating, a feeder should be so regulated, if possible, that the bees will get a very small supply lasting during the entire 24 hours.

Our experiments are not complete yet; and, while we have not formed definite conclusions, we are simply giving our readers the benefit of our present impressions, so they can be trying it out for themselves. Many bee-keepers will find on their hands, this fall, colonies weak with no brood. Such bees, unless they have a fresh infusion of young brood during August and September, will not be able to survive the winter. If their owner, on the other hand, can give them half a pint of syrup so that it will take them 24 hours to get the half-pint, they will save their bees and get more brood. When a pint of syrup is given at a time, and the bees take it up inside of an hour, there is greater excitement; and when the supply of food is exhausted, brood-rearing has a tendency to come to a stand-still, for the reason, probably, that the bees fear to continue brood-rearing unless they have the prospect of a steady supply every hour in the day.

Those who have pepper-box feeders of any sort, or Boardman feeders with perforated bottoms, should have all the holes soldered up by a tinsmith except one or two. We find we can cut down to one or two holes. If one doesn't have either of the feeders mentioned, he can take an ordinary self-sealing tin fruit-can, punch a hole in the self-sealing top, no larger than would admit an ordinary pin.

If, by experiment, this hole is not big enough to let out the syrup fast enough, punch another hole and fill the can with syrup made by mixing sugar and water in equal parts by measure or weight. Invert the can over a colony of bees and then note the results. If you don't find that you get more brood for a given amount of syrup, we shall be surprised. In other words, this manner of stimulating should save a considerable amount of sugar.

*Later*.—Later experiments with the one-hole pepper-box feeder tend to show that the principles of slow feeding, set forth above, are correct and sound. Slow *continuous* feeding by which it will take the colony the whole 24 hours to take up a pint of syrup, will produce more brood for the syrup used than if the same amount is taken out of the feeder in an *hour's* time. The one-hole feeder does not excite the bees in the least. Those whose colonies are not strong enough to go into winter, and who desire to save as much as possible in the cost of sugar, will do well to try the one-hole feeder.

# Stray Straws

FRANZ RICHTER uses tomato-leaves to drive ants away from hives — *Bienen-Vater*, 140.

A STRAW, p. 450, says R. La Cense keeps the queen out of the super with an excluder. It should be "without an excluder."

THE LONG DROUTH has left the hives lighter than in the spring; but this morning, Aug. 1, we've had a soaker, and the world is turning green again.

DARK HONEY, says Jul. Frei, is richer in iron, lime, and phosphorus than light, and therefore more valuable from a medical viewpoint. — *Schweiz. Bztg.*, 285.

THEODORE GRAY, p. 474, if you use an excluder, better not put a section-super on a swarm for two or three days, especially if a previous start has been made in the super.

WILLIAM BEUCUS, you say, page 457, the queen's laying is unrestricted in spring, and restricted in the harvest. Is she not usually restricted in spring to three or four combs for want of bees to cover more?

M. WATHELET says, in *Le Rucher Belge*, that when he has cleaned and dried his extractor he coats with wax any rusty places, first heating them with an alcohol-lamp. Of course, the extractor must not afterward be cleaned with hot water.

W. H. LITTLEJOHN, p. 473, I've used lots of brood-frames that were boiled in lye, and no harm resulted. I've also boiled separators, but prefer to scrape them. I have a fine tool for scraping them. I wish the inventor would send me his name.

J. E. CRANE, that's a joke on me, sure enough, to make honey taste better with a pound of butter, p. 354. Of course it should be "make butter taste better." It's that villain, W. P. R., who is expected to make sense of any old thing I send in.

E. F. ATWATER is just right, *Review*, 176, when he thinks factory-made slatted excluders are too fragile. He wants the wood part  $\frac{1}{8}$  inch thicker. He may be right, too, that fewer zinc strips would be just as well. [How many others will endorse the statement of Mr. Atwater and Dr. Miller? If the wood-zinc honey-boards are not strong enough, the supply-manufacturer ought to know it. —Ed.]

DR. KRAMER says, *Schweiz. Bztg.*, 275, if you put prepared queen-cells adjoining unsealed brood they will be fed, and adjoining sealed brood they will be emptied, because in the former place the nurses abound in food, while in the latter they are doing no feeding. If only sealed brood is in the hive, then put the cells where young bees are hatching, as these are fed by the older bees. [Dr. Kramer is right to a great extent. —Ed.]

DR. E. F. PHILLIPS sends the cheering intelligence that American foul brood is in my county (McHenry). Now, what did I ever do to Dr. Phillips that he should want me

to have all varieties of foul brood at the same time? [Say, doctor, if American foul brood gets into your apiary, I think you could practice the Baldrige treatment to advantage. You remember it contemplates the plan of putting bees in a clean hive on clean frames of foundation. All the good brood in the old combs is allowed to hatch, when the combs are melted up or destroyed. —Ed.]

"IF A COLONY can be held back from swarming until they get nicely at work in the supers, the chances are they will not swarm at all," p. 447. How I wish it would work that way here! The rule is that no cells are started till after work begins in supers. [Possibly we put it a little strong; but, doctor, haven't you gone clear to the other extreme? Is it not true that, in a backward season, or in the case of a colony not over-powerful, the bees, especially the Italians, will sulk, and build cells before they go into the supers? A very light honey-flow will start swarming when it will not force bees into the super. A heavy honey-flow will force bees into the super and check swarming; therefore, when bees are working in the supers they are less inclined to swarm. Perhaps this is more marked in the Southern States than in the North. In our travels over the country, large honey-producers tell us generally that a light honey-flow starts swarming when a heavy one will check it, and generally (in the South, at least) stop it altogether. This is particularly so in Texas. Now, then, if bees are working nicely in supers, does it not imply a good honey-flow and little inclination to swarm? —Ed.]

WHEN ROBBERS attack a colony, if the hive be removed the robbers pitch upon the nearest colony. So I have practiced leaving in its place a hive with a comb containing a little honey. The robbers clean out a little honey and then leave. I now find it is still better to have the hive entirely empty, only so it looks outside like the old hive. Just as effective, with less delay. [A far better plan, in our judgment, is to put a robber-trap hive in place of the hive robbed, and cage all the robbers, holding them in the trap for a couple of days, feeding them in the meantime, and finally dumping them in front of a hive in an outyard that needs a few more bees. The queen in the hive had better be caged for twenty-four hours.]

In our experience, especially in the queen-rearing yards, it isn't wise to let robbers go back home. They should be caught and then transported to another apiary where the conditions are entirely different. Rather than let them loose to torment apiarists and nuclei, we would kill them. But some reader who is following these lines may ask, "What is a robber-trap?" It is a hive with a bee-escape over the entrance, so placed that the robbers will rush into the hive but can't get out again. —Ed.]



# SIFTINGS

J. E. CRANE, Middlebury, Vt.

## HOW BEES SOMETIMES RECONSTRUCT WORKER INTO DRONE COMB.

On page 355 Dr. Miller refers to an item from my pen about old combs of worker cells being worked over into drone comb because worthless for breeding, because filled with pollen, etc. Well, doctor, I think if that sentence was printed as written I can take the cake for writing the clumsiest sentence of any one in GLEANINGS, and saying just the thing I didn't mean. What I intended to say, and the idea I meant to convey, was that sometimes old combs contain hardened pollen; and to get rid of the pollen the bees will tear down the cell walls; and after the pollen is removed they will, in rebuilding, build drone cells instead of worker cells. But, honest, doctor, haven't you ever found where, when there was no drone comb in a hive, the bees would tear down a piece of one side of a worker comb and rebuild drone-cells? I supposed everybody had seen it done. I have always been troubled with more drone comb than I cared for. When comb foundation had proved a success I said to myself, "Now I'll fix the bees so they can't build drone comb. I will just fill this brood-chamber with worker comb and they will have to rear workers instead of worthless drones;" and I told them so in as many words, and it worked very well the first year; but when the snows of another winter had melted, and the time of romance had come to the insect world, they said among themselves, "It's a shame not to have a wedding or two in the family." "But how can there be a wedding without drones?" And some one wiser than the rest (perhaps it was the queen) replied, "Why don't tear down some worker-cells and build some drone-cells instead?" And so to work they went, tearing down a patch on one side of a worker comb as large as the palm of my hand, and rebuilt with drone-cells; and as they worked they talked it over. I don't quite know what they said, there was so much buzzing; but I think they inquired one of another who was such a fool as to think bees could get along without a little drone comb.



## THE PROS AND CONS OF CORRUGATED-PAPER CASES.

Mr. Foster asks me several questions on page 323 in regard to corrugated-paper cases, which I will try to answer. First, he asks if corrugated cases will carry honey as safely when shipped uncrated as double-tier cases when crated. That is a rather hard question to answer, as we have never used double-tier cases; but from our experience in shipping paper cases in small lots I should expect there would be but little difference.

Another objection Mr. Foster raises is that "the partitions makes it difficult to remove the sections of honey." It is not so difficult

as you imagine, my good friend. As the partitions come above the sections it is both simple and easy to remove one or two partitions, when the sections of honey can be removed even easier than when packed solid as in wooden cases. "What are the advantages of the corrugated case where honey is not shipped other than in car lots?" In other words, of what use is it to pack in paper cases when you ship in car lots, and feel reasonably sure it will go through safely?" Well, I used to feel much that way; but the efforts to sell honey direct to retail dealers opened my eyes. We are apt to think if we can only ship our honey in a block or car lot to the large city dealer, that is all there is to it—it is his business to look after it then. It is out of our sight and out of mind; but we fail to remember that the large city dealer does not sell by the carload, but has to sell, in small lots, from one to a dozen or more cases to small retail dealers; and the carloads must sooner or later be broken up into small lots and reshipped in every direction, and very often gets pretty rough treatment. Now, these small shipments, if the honey is in wooden cases, must be crated, or run a great chance of getting broken, while the corrugated cases can be shipped with little danger of breakage, although uncrated. It costs in the large cities from a quarter to half a cent a pound to crate honey; and then the freight or express is more because of the additional weight. You remember what Mr. Byer told us some time back in GLEANINGS, that a dealer in Toronto told him he could ship these cases to the Provinces of Manitoba, Saskatchewan, and Alberta without breakage.

## A Farewell to W. Z. Hutchinson.

BY DR. FREDERICK D. WEBLEY.

Is he gone—the good, the brave?  
Surely him we can not spare;  
Unto us his all he gave—  
Gifts of mind and judgment rare.

One by one they pass away,  
Masters of the honeyed art;  
Who shall take their place that day  
When we see the last depart?

Dauntless-hearted pioneers!  
We inherit now the good  
That they gave through all the years  
For the cause of brotherhood.

It was they who led the way  
Where elysian fields are found,  
So they came at break of day  
To the Happy Hunting-ground.

Honor to the early few,  
Leaders of our gentle art;  
Glad we give them honor due  
And the tribute of the heart.

Those who love their fellow-man,  
Serving with unselfish heart,  
Serve God's providential plan—  
Loving, choose the better part.

Santa Cruz, Cal.

# Bee-keeping in the Southwest

LOUIS SCHOLL, New Braunfels, Texas

## RIPENING HONEY ON THE HIVES.

For more than ten years we have followed the practice of leaving our honey on the hives until after the honey-flow. This insures a product that can not be obtained by any other method—a thick, heavy-bodied, well-ripened article that has a velvety taste and an excellent flavor, very much unlike the most of the honey on the market. It gives a honey that will be bought by any customer who may happen to get a taste of it if he likes good honey. "It is thick and ripe enough to chew," if left on the hives long enough; and the aroma that goes with such honey is lacking in that which is taken off earlier in the season.

Aside from the question of the quality of honey obtained by this practice we make use of it for another reason. This is a very important one with the bee-keeper managing large numbers of colonies in many apiaries. By tying up during the honey-flows, and giving his entire time toward securing the most honey at that time, leaving the removal of the crop until the flows are over, an extra advantage is gained. The attention given to the bees during the flows insures for him a larger crop, and he can not afford the time to take off honey during this period. After the flow is over, there is nothing else to worry him, and his time is not worth nearly as much, so that he can make it more valuable by devoting it entirely to the harvesting of a crop of a superior grade of honey.



## WHEN CHICKENS ARE A NUISANCE.

During one of our best honey-flows recently we were very much provoked by a number of our young chickens which disturbed the bees to such an extent that the loss to the colonies which were storing was considerable. We were very proud of our young stock of a little more than a hundred pure-bred chickens; but to find them each morning having a feast of the heavily laden bees as they were dropping in front of the hives on their return from the fields caused a great deal of vexation. It was impossible to pen the chickens off; and to move the bees during the height of the honey-flow, and that during the most severely hot weather of the summer, was equally out of the question. The only remedy left was to "shoo" the chickens every time they were found feasting on bees.

The way the chickens persisted in eating them in spite of the constant chasings showed that bees must have been appetizing food for them. The alertness with which the bees were picked up and pecked to pieces before being devoured was very interesting indeed, and it was seldom that a chicken was stung. The few cases in which they were stung did not seem to have any effect on discouraging their feasting. This was

noted especially in the case of one of the young Rhode Island Reds which was stung twice during four days, but which was the most persistent little chap in the game.

Just how serious the damage might have been can be estimated; perhaps, if we consider that as many as twenty or thirty of the young birds were busy catching bees at a time; and upon several occasions, when they were watched for the purpose, it was found that a dozen bees seemed not to appease the appetite of a single bird. They were not catching drones either, as might be supposed at first thought, because there were none present, the swarming season having been over a long time. This has proven to us a thing we did not know before—that bee culture and poultry-keeping go well together; but that sometimes, at least, they must be carried on in separate yards. That is why we shall move the bees out of the poultry-yards as soon as the honey season is over,



## DO BEES AND POULTRY PAY?

This is a question that has been asked us several times, and time and again we have answered that it does if it is followed in the right manner. We have made bee-keeping pay for nearly twenty years, and have made it pay well. We have always believed strictly in specialty in one certain line of work, and we still believe in it; but at the same time we are following the advice of some who claim that a busy man should have some side issue or "hobby" on which to spend his spare time, and thus sometimes get his thoughts off his main business.

Thus it is that we have mixed in the poultry business as a "hobby," with our extensive bee business, and we do not regret it either, since we have been very successful with the new venture. This matter was mentioned by us some time in the early spring; but at that time we had not had time to make any success out of the poultry business. However, we have found that the fun or even the work given to the chickens early in the morning, which is about the first thing we do, as well as in the late evening, after the bee work for the day is over, brings with it a certain amount of profitable pleasure that is not to be had without the "hobby."

Besides this the dollars-and-cents point of the poultry business is quite satisfactory, especially if it "pans out" pretty well. Aside from the large number of egg settings at a good price, there were sold a great many dozens of table eggs. Then more than a hundred young chickens were raised that are worth something since all our poultry are pure-bred White and Barred Plymouth Rocks and Rhode Island Reds. These will bring a good price for breeding stock.



# Conversations with Doolittle

At Borodino, New York

## HOW TO KEEP COMB HONEY.

"I have nearly a thousand pounds of honey which I took from the hives in June and early July, and it seems to be sweating, and some of the sections at the bottom of the pile smell almost sour. Is there a difference in the keeping qualities of comb honey?"

"Did you pile the honey directly on the floor?"

"Yes."

"I inferred this from your saying that the sections at the bottom of the pile were souring. When honey is stored on the floor the air can not go under the bottom of the pile, and, through lack of proper circulation of air, it often becomes watery near the floor and at the bottom-back side of the pile in even a well-ventilated room. Some kind of open-work platform should be fixed on which to pile the honey, so that there will be a current of air going up through it, and all about under the bottom of the pile. When I first commenced keeping bees I stored my comb honey in a room on the north side of the house, and piled it directly on the floor, as the most of those having bees about me at that time stored their honey in the cellar. But when I came to crate the honey for market I found that that which had been next to the wall and on the floor was very watery. Some of this honey had soured, and was bursting from the cappings of the cells, while that in other parts of the room away from the wall was in fairly good shape. The next year found me with a temporary platform fixed of slats, spread apart enough so that the edges of the sections would just catch on them, the platform being raised about sixteen inches from the floor. When another tier of sections was to go on top, strips of lath were placed between, and so on clear to the top of the pile, and in this way the air could circulate all around the sections. This method has proven a perfect success for nearly forty years."

"Do you still store your honey in that same room on the north side of the house?"

"No. Honey will not keep well in any cold room, for it will draw moisture rapidly every time it becomes much cooler than the surrounding air, and it always will be every time the room is warmed up by the temperature of the outside air. The pile of honey being slower in changing than the air in the room, it will sweat at all such times, and thus moisture is absorbed to the detriment of the honey, the bee-keeper, and the consumer. If such a room can be ventilated it will help much; but ventilation, unless coupled with warmth, will not keep honey to perfection."

"Again, I have found that a high temperature in a room is of little value if said room is so tight and close that no draft of air can carry off the moisture which evaporates from the honey; and the larger the

pile of honey stored in any room, the greater should be the ventilation."

"An upper room right under that part of the roof which pitches toward the south is preferred by many of the New York apiarists, for the reason that the sun heats it up nearly every day, and there are enough cracks and crevices about the eaves, under the rafters, and out-of-the-way places to give just the right sort of ventilation required for the most perfect keeping of honey. But without an elevator, the storing of honey in such an upper room is no small task. Where such a room can be had, even honey that has begun to sweat can be restored to fairly good condition; but honey which has been kept in a poor room until it has begun to sour can hardly be made salable again."

"Do you take off many sections not fully capped over? I have the worst trouble with these where the cells are not sealed."

"Taking off sections not fully sealed should never be done, unless it may be those nine-tenths sealed at the close of the white-honey harvest, so that the dark honey shall not be mixed with the white, or at the end of the season in the fall, when, of course, we are compelled to take off all sections. Fully capped honey is not as likely to become watery and sour as is that which is unsealed; and as unsealed honey in any part of the sections makes such a section more or less unsalable, it is always best, if possible, to leave all sections on the hive until they are fully sealed. In no case should these partly filled sections be mixed in the cases with well-sealed honey when sending to market, for the one buying the honey by the case would become disgusted. Then, such a course will result in your whole crop bringing a less figure; for in finding unsealed honey in the middle of a case faced up with fully sealed combs, the one receiving it will not take the pains to procure a good price which otherwise would be done. Where you have such honey, and it is good enough for market, crate these partly sealed sections by themselves, and in this way you will get its full value without detracting from the sale of your fancy article. These little matters make all the difference between success and failure in our pursuit."

## The Powell Gravity Strainer.

Mr. Powell's gravity strainer, as illustrated on p. 327, June 1, seems to be just the thing. But what need is there of the honey-tank? Why not draw the honey from the gravity tank's pipe at once into the five-gallon cans?

St. Louis, Mo., June 8.

F. C. AMEISS.

[We do not know that there is any particular advantage in the honey-tank in connection with the Powell honey-strainer, except that the use of such a tank would render the filling of the five-gallon cans more convenient. If there were no tank one person would have to keep almost constant watch, for the capacity of the strainer is not very great, and the honey could not be shut off very long without overflowing the strainer-tank.—Ed.]



# General Correspondence

## PURITY TESTS FOR BEESWAX.

### 1.—Chemical Tests.

BY WM. P. MUNGER.

There have been a number of different methods suggested for determining the purity of beeswax, but most of these plans have been either too complicated for the average person or so unreliable as to be practically worthless. We believe that this article and the one that will follow it in the next issue may be relied upon absolutely, as the writer is chief chemist with the Stromberg-Carlson Telephone Company, which fact alone renders further credentials unnecessary.—ED.

A majority of beeswax-producers and middlemen probably do not intentionally practice adulteration; yet as adulterations are constantly found, there must be some producers and middlemen who do adulterate beeswax. Considering the ease with which foreign materials may be incorporated with beeswax, and the impossibility of detecting many of these by inspection, it strengthens one's faith in his fellow-man to know that there are so few who practice adulteration, and so many who are able to withstand temptation. When adulteration is practiced, the extent of adulteration is apparently limited only by the skill of the operator and the amount and kind of materials available. Indeed, the range extends from water, dirt, starch or flour, and rock dust, added by the dishonest producers, to the precise mixtures of fatty matters, resins, and waxes compounded by large dealers. These compounds may be at first sold under their true names; but in passing through several hands they become gradually changed, so that the compound is beeswax (in label) when it finally reaches the retailer or consumer. It is this uncertainty as to purity that makes it necessary for even the small or occasional purchaser to be familiar with the simple and rapid methods for detecting gross adulterations. If adulteration is indicated by the chemical tests, it is not advisable to accept the consignment until a chemist can report on a sample.

For a person not having the advantage of a well-equipped laboratory and much experience, the best way of testing the purity of a substance is to make a comparative test. This is made by taking the sample and a sample of known purity, subjecting them to the same influences at the same time, and noting the difference in results, if any. In detecting adulterants by the following methods, such comparative tests should always be made until the operator has gained considerable experience.

The first step in testing wax is to eliminate all insoluble substances, whether they be unintentional impurities or such adulterations as starch, meal, sand-clay, yellow ochre, sulphur, gypsum, or heavy spar. When a portion of the sample is melted in a dish of water, the wax will rise to the top and most of the insoluble impurities will

either settle to the bottom or diffuse through the water. As the wax may hold some of the impurities in mechanical suspension, the only sure way of detecting this class of adulterants is to drop a few thin shavings from the sample into a glass or test tube half full of cold chloroform or warm turpentine. The beeswax will completely dissolve in a short time, leaving any insoluble adulterants in suspension or on the bottom. Some samples of beeswax of known purity, owing to previous atmospheric exposure, will show imperfect solution when held between the observer and the light and shaken gently. Such seemingly imperfect solution is not to be taken as evidence of intentional adulteration. If bleached wax is being tested, it must be remembered that chloroform will dissolve only 25 per cent of the sample.

The second class of adulterations comprises fatty matters, such as stearic acid, tallow beef, suet, japan wax; resins as colophony (rosin), galipot, and burgundy pitch. Any adulterant of this group may be detected by boiling, for half an hour, one part by weight of wax with 35 parts by weight of sodium-hydroxide solution (this solution is made by dissolving one part of sodium-hydroxide sticks in seven parts of water, letting the fluid cool, and filtering through paper each portion as used). When the boiling is concluded and the solution has cooled to the temperature of the room, the wax should all separate, and the underlying liquid should not be opaque. The color of the underlying liquid will vary from colorless to a bright yellow; but deep color is not to be taken as positive evidence of adulteration or the presence of dye stuffs. When, to a portion of the underlying liquid, a few drops of hydrochloric acid are added, the liquid should not become turbid.

The third class of adulterants consists of soaps. This class can be easily detected by boiling the sample of wax in distilled water (for ordinary water contains sufficient mineral matter to affect the results) for an hour, and then, when the liquid has become cool, adding a few drops of hydrochloric acid. If the underlying liquid becomes cloudy or opaque, the presence of soap is indicated.

The fourth class of adulterants consists of mineral waxes such as paraffine, ozokerite, etc. The detection of this class depends upon the fact that moderately concentrated sulphuric acid does not decompose paraffine like bodies when boiled for a short time with the sample, while other waxes and fatty acids would be decomposed by such treatment.

The test is performed by heating five parts by weight of beeswax with twenty-five parts by weight of sulphuric acid for fifteen minutes at 320° F. (160° C.). If, when the mixture has been cooled and cautiously diluted with water, no waxlike body separates, paraffine is absent.

If the wax has been bleached, then the

sample should be tested for the presence of injurious substances, which may have been formed during or remain from the bleaching. To cover most of the processes in ordinary use, it is necessary to test for the following substances: Charcoal, permanganates, dichromates, sulphates, dioxygen, free fatty acids, free alkalies. Charcoal would be detected in the test with turpentine or chloroform previously given.

Permanganates, dichromates, and sulphates would be extracted by the boiling water as given in the test for soaps. The permanganates and chromic compounds will give color to the water, the depth of color being proportional to the amount of compound present. Excessive amounts can be detected by making a comparative test with wax which has been carefully bleached, and noting the comparative depth of color. The sulphates can be detected by adding a few drops of barium chloride to a portion of the extract. A milky coloration indicates the presence of sulphates.

As dioxygen will be decomposed and volatilized by heat, it is not necessary to test for it.

The test for free fatty acids has already been given.

Free alkalies may be detected by dropping a piece of red litmus paper in the watery extract. If the paper turns blue, then free alkalies are indicated.

In addition to the above, there are many other excellent chemical methods which will detect one or more foreign matters in beeswax. As the operator must have considerable equipment and experience before he can be sure of accurate results, the methods are not of general interest, and are, therefore, here omitted. In the succeeding article a method will be given of detecting the presence of ordinary adulterants in beeswax by a simple physical test.

Rochester, N. Y.

### CAPPING-MELTERS.

#### Some Causes of Unsatisfactory Results.

BY F. R. BEUHNE.

IN GLEANINGS for Jan. 15, page 30, the editor mentions a number of drawbacks in the use of capping-melters. As I have probably had as much to do with melters or "reducers," as we call them in Australia, as any honey-producer, I should like to give my opinion in reply to the various complaints referred to by the editor and by Mr. W. A. Chrysler.

First, the editor says: "A capping-melter needs constant attention." The "reducer" I use (one at each apiary) requires less attention than any uncapping-tank, can, or box that I have ever come across. If packed on the outside to save fuel, if properly set up with a stove of the right kind underneath, and if protected from draft by a fire-proof compartment, it is altogether automatic.

Next is the complaint of heat. This shows that a considerable amount of heat is lost from the apparatus because it is not covered on the outside; and from the stove, because it is not enclosed. This heat is not only wasted, but is a trial to the operator. When both apparatus and stove are properly insulated there is no more heat than there is when honey-knives are heated in a vessel over a lamp.

Third, there is complaint of the quality of the honey being injured. Now, honey may be injured in a melter by being overheated, by being too long in contact with hot metal, or with hot wax and slumgum. Keeping the honey running from the melter continuously, and separating it at once from wax and refuse will obviate overheating, and will prevent the waxy taste so noticeable when honey remains in contact with hot wax for a time.

Then there is the darkening of honey. This is considered by many as a result of the heating, when, as a matter of fact, it is due to the coloring matter from dark combs. This coloring matter is very soluble in hot water; and when old combs are uncapped with a wet knife there is more discoloration than when a dry knife is used. The cappings of new combs do not discolor the honey from the reducer; but when cappings of old combs are allowed to drain, instead of being melted as they come off the knife this coloring matter adheres to the wax; but, sooner or later, the cappings are melted, and it is then found in the honey, no matter what means have been employed in rendering.

Mr. Chrysler suggests pressing the cappings cold as a means of overcoming these difficulties. I used a capping-melter first in 1895; and after a few seasons, thinking that heat caused the darkening of the honey, I constructed a press to force the honey out of the cappings. But the honey was discolored just the same. Even more than I expected remained in the press cakes; and the more pressure I applied the darker it became when the cappings were from brown combs. After being convinced that heat was not the cause of the darkening, I returned to the melters, of which I constructed several different kinds, and finally adopted the tube grid, and continuous automatic separation by means of the U-tube principle, as the best way of shortening the contact of the honey with hot metal, slumgum, and liquid wax.

For the last five seasons every ounce of honey from cappings has run into the tanks along with the honey from the extractor, and I have not been able to detect any difference between honey with the cappings honey incorporated, and extracted honey by itself. Of course, there must be a difference, because when the honey from dark cappings is kept separate it shows a distinct dark hue; but when it mingles with all the honey from the extractor (at a temperature of 150 degrees), it is not noticeable after cooling down and clearing in the settling-tank. I



may here mention that the honey from the extractor runs through an apparatus which heats it to 150 or 160 degrees. All particles of wax, pollen, and air-bubbles rise to the surface in the tank, a strainer being inserted merely to keep the tank closed.

Some may infer that I extract mostly from clear combs; but this is not the case. The majority of my combs are dark; but they are straight—straight in the midrib; and when uncapping I scarcely touch the dark cocoons, the knife taking just the new extension of the old comb. Thus very little of the brown material gets into the cappings. Why should I have crooked combs when straight ones are so much better for the extractor, for the brood-nest, and for the operator?

Victoria, Aus.

### DO QUEEN-CELLS ABOVE A COMB-HONEY SUPER BRING ON SWARMING?

Bees Enter Drawn Combs in Sections as Readily as in Extracting-frames.

BY DR. C. C. MILLER.

*Dr. C. C. Miller:*—I use Danzenbaker hives; and in the spring, in order to forestall swarming, I place an extracting-super on, allowing the queen to occupy the same until the beginning of the clover flow, or until time to put on sections. I then raise the extracting-super and put on sections below the excluder and extracting-super, brood and all. Now, the question with me is, does not the placing of brood above an excluder, with its certainty of having queen-cells started, thwart the very object I have in view by communicating, to the colony below, the swarming fever, by the presence of queen-cells above?

Nevada, Ohio.

F. J. ARMSTRONG.

[Dr. Miller replies:]

When one or more frames containing unsealed brood are under or over the brood-chamber, these frames being isolated from the queen by an excluder or by some other means, there is more or less tendency on the part of the bees to start queen-cells on this isolated brood. It seems as if the bees have a feeling of queenlessness, and the greater the distance from the queen the more surely will cells be started. In the present case, a super of sections being between the brood-chamber with its queen and the brood above, the isolation is so great that cells will be started almost as readily as if this upper story were on a separate stand. Now, if the effect of this distance is so marked that the presence of the queen in the lower story will not have enough effect on the upper story to prevent the starting of cells there; conversely, the presence of cells in the upper story should not have enough effect on the lower story to start swarming there.

Although there may be no such danger as you suggest, there may, however, be other reasons why you should do some thinking

before following out the plan outlined. Whenever I have tried having brood over a super of sections, it has always resulted in having the sections darkened, probably by bits of dark comb being carried down from the combs above. Just why they will carry this dark comb down, and will not carry it the same distance above, I do not know. It seems to be a way they have.

While it is a desirable thing to give the queen all the room she needs before the harvest, it may or it may not be a good thing to let the extra room remain to be used as an extracting-super. If you want the extracted honey, well and good. But if there is more profit to you in getting the white honey in sections, then do not leave on the hive the frames that have been used for brood, allowing them to be filled with the finest of the harvest. This is sometimes done with the idea that bees will begin work sooner in extracting-frames than they will in sections. It all depends upon what is in the extracting-frames and in the sections. If the sections be filled with drawn-out combs, and the extracting-frames with foundation, they will take to the sections first every time, and *vice versa*. If both are filled the same, I don't know that they would have any choice. Moreover, if there be in the super a single section filled with comb centrally located, work will begin in that section just as soon, whether the rest of the sections contain comb or foundation. In seasons of failure I have seen hundreds of cases in which the bees have put honey in the bait section, perhaps filled and sealed it, and not a drop in any other section. So for me to allow an extracting-super to be filled would simply give me so much extracted honey in the place of comb, with no advantage unless it be an advantage to have the extracted honey, which involves, of course, the possibility of a larger yield of extracted than comb.

Now I'm telling you how it is here. If there is something different in your bees or your locality, then you must act accordingly.

Marengo, Ill.

### INCREASING THE CONSUMPTION OF HONEY BY ADVERTISING.

BY W. W. BROCKMIRE.

If bee-keepers expect to see an increase in the amount of honey used they will have to educate the public in regard to the habits of bees and the production of honey; for the average man thinks honey is honey, one flavor and one color, and that, when candied, it is a sugar-syrup mixture. For this reason many suppose that honey is adulterated when it is not. Bee-keepers ought to do something to counteract adulteration and comb-honey canards. This can be accomplished by a judicious advertising campaign through their organizations.

Now, I suggest this plan, which I think is simple and feasible: Better organization of bee-keepers by consolidating the National



and State organizations, and the authorization of National officers to print and issue labels for the use of dealers who sign an affidavit or agree to use the labels only on pure honeys (somewhat on the order of labor unions that issue stamps for marking union-made goods). The proceeds from the sale of these labels could be used for advertising in magazines (not bee journals) having a wide circulation, and also for printing and distributing instructive booklets on bees, honey, and recipes that call for honey, these pamphlets to be sent to any address upon application.

As to the advertisements, the main object of these should be to point out the superiority of honey to that of corn syrups, jellies, and molasses, and also to caution buyers that, when they purchase honey, to be sure that it bears the label of the National Bee-keepers' Association as a guarantee of purity.

Another means of advertising is to hold exhibitions at expositions and agricultural fairs, and again to distribute interesting literature.

Cincinnati, O.

### EUROPEAN FOUL BROOD GETTING A FOOT-HOLD IN SOUTHERN CALIFORNIA.

BY LEVI J. RAY.

Various opinions have been expressed and many articles have been written concerning the cause of the severe losses of bees during the past winter and spring in nearly every apiary in Southern California. The cold backward spring, lack of pollen, the dry weather of last summer and fall, have been mentioned among other probable causes, all of which may have affected the situation; but to what extent I am unable to say.

My partner and I have feared, from the first, that we had something to deal with which was worse than an ordinary case of spring dwindling, and the letter which I have just received from Dr. Phillips, at Washington, proves that our fears were well grounded. He says that the sample of brood sent him is affected with European foul brood.

We are requeening our apiary with young Italians, and are giving some of the worst-diseased colonies the McEvoy treatment. We have sent word to the county inspector to have him examine other apiaries in this vicinity, as a number of bee-keepers have complained of chilled brood and pickled brood ever since early spring. We have reason to believe that the malady is present in a number of apiaries in this locality.

As several carloads of bees have been shipped both to and from this valley already this season, I thought that the truth of the situation should be known, and I write this statement in order to prevent, as far as possible, any unnecessary distribution of so destructive a disease.

Monrovia, Cal., July 10.

[If European foul brood has gotten a foothold in California, the bee-keepers of that State should bestir themselves from one end of it to the other to hold it in check. While it is easier to cure than the American type of the disease, it spreads more rapidly. California bee-keepers should get rid of their old black and hybrid stock, and introduce Italians.—ED.]

### THE ADVANCE OF APICULTURE IN NEW ZEALAND.

Bee-keepers' Associations on the Increase; a Model Disease Law; Ten-frame Hives Giving Better Results than the Eight Frame.

BY "PROGRESS."

Being situated on the opposite side of the equator to the States our seasons are naturally reversed; and when you see the smiling face and receive the hottest rays of the sun, our cold winds are sweeping across the plains and up the valleys of our mountains. This being mainly an agricultural and pastoral country, it is well furnished with rich clovers, the main stay of our honey-flow, while other nectar-bearing flowering plants and trees are in evidence in sufficient quantities to provide other food and pollen, both before and after the clover. Our winter is not severe except occasionally in the extreme South, so that our colonies, if left well provided for in the autumn, are almost certain to come out well in the spring, and, with the careful attention on the part of the apiarist that is essential to the welfare of the honey crop, they can be worked up strong without much trouble.

The main flow generally starts about the middle of November, and often continues until the end of February. Occasionally, however, on account of various climatic conditions the white-clover flowers are rendered destitute of nectar, and the bee-keeper in an all-clover district invariably thinks himself lucky if there is any surplus honey at the end of the season.

The hives used are the standard Langstroth ten-frame, as it is found that they give the best results, and an enterprising firm has installed modern machinery for the making of dovetailed supers. These are made from picked and very dry white pine, and are well finished in every particular. This firm also makes all other woodware necessities, and supplies every thing pertaining to bee-keeping.

There are some 18,000 persons who own bees, and the number kept by each ranges from the man who keeps a few hives only to provide him with a relaxation from business, to the apiarist who sometimes keeps as many as 700 or 800 colonies, and who relies on these to provide him with a comfortable means of livelihood. There are quite a number of these latter; and the splendid quality of honey produced, and the averages per colony obtained, mark them as good and up-to-date bee-keepers.

I should like to impress one thing upon your queen-breeders; and that is, for them to discover a means whereby they could send their queens here in safety. Quite a number of men, including myself, have spent a considerable amount of money in trying to accomplish this object; but up to the present time, although various ways have been tried, the average of live queens landed has not exceeded one in about 200. Every bee-keeper here of any consequence recognizes the fact that the introduction of new blood from across the sea is very necessary, not only to improve the honey-gathering qualities, but also to keep up the stamina and vitality of the race. Should this object be accomplished I have no hesitation in saying that a considerable amount of business would be opened up between the two countries.

We have eight bee-keepers' associations in full swing, and the initial combined conference was held recently in Wellington, delegates from the different associations attending. It was decided that the association so formed should be named "The United Federated Bee-keepers' Association of New Zealand," and has as its Secretary Mr. Bray, late Government Apiary Instructor. Matters of importance to apiarists were discussed to some length, and a prosperous future for bee-keepers is looked forward to as the result of these associations.

My readers have by this time come to the conclusion that New Zealand is very wide awake to the promotion and protection of bee-keeping as an industry, and they enjoy the privilege and benefit of perhaps what is the best apiaries act in the world. There are at present two apiary instructors employed by the government to carry out the provisions of the act, and bee-keepers look forward, and are hopeful that this number will be doubled in the near future. A model apiary and queen-rearing establishment is also run by the state, and here cadets from all parts of the dominion are taught the principles of scientific bee culture; and if they pass their examinations at the end of the season they are given a certificate of proficiency, thus enabling them to start at a salary with some large apiarist, or to commence for themselves with confidence.

Wellington, N. Z.

## A PLAN OF REQUEENING FOR THE BUSY HONEY-PRODUCER.

BY GEO. SHIBER.

In such a poor season as this, with practically a drouth all through harvest, when one wonders how the bees secured any thing at all, let alone any surplus, it is gratifying indeed to find a colony that has produced over 75 lbs. of clover and basswood honey this season, and these bees would, no doubt, have made twice as much in a good year.

It is evident that such a queen is the one to be used as a breeder. I think her bees

are full-blooded Italian, as they have all the characteristics. We have named her "Jane" for identity. She is of good size, with a long large abdomen. (I have never seen many small queens that were especially good.) I am using this queen for requeening all the undesirables, and also for increase. (I have no queens for sale.) This is the way I have proceeded:

After the flow she was put into a new hive to form a nucleus, and made just strong enough to avoid the danger of their building drone comb. Then a frame containing an inch or two of comb or foundation was given; and as soon as this was built out a little, and contained just hatching larvæ, it was taken out and another put in its place. The comb with the young larvæ was given to a strong queenless colony. After ten days, twelve or fifteen cells were found.

Last fall I gave my way of introducing queens and cells to full colonies. In brief it is this: Find and destroy the poor queen; then move the hive containing the colony to be requeened to a new location, and the virgin will be almost certain to lay on time without being worried by older bees; and not much is lost, as the flow is over, and the old bees will go into nearby hives, and in a few days a new colony may be placed on the stand which was occupied before the removal of the hive. In this way there are no gaps in the rows.

Mr. Hutchinson, in his book, outlines a good plan for requeening—give the colony, after removing the queen, a frame of larvæ, with slits cut in the comb, "and the job is done." Now, with me the job would not be done, for I should expect about ten per cent of such queens to be missing, or else that they would be "no good." But if about ten days from the time the larva was given, the hive is moved to a new location, so as to get rid of the old bees, every thing ought to go well. In short, this is one of the best kinks I have stumbled upon in some time. I am, at this time, July 15, putting the plan to test, and it certainly makes good.

There is no temptation to let a "fairly good queen" go through, for she won't be any better next year. I do not know of any work in all apiculture that pays so well as weeding out poor stock.

Randolph, N. Y.

[Something over 25 years ago, when we not only had charge of but did all the work in our bee-yard, we had a shipment of 25 imported Italian queens. Not having any place to put them we formed 25 two-frame nuclei in the morning. Toward night we introduced one of these nice imported queens to each one of the nuclei. The old bees during the day had gone back to the old stand, and, of course, there were left in the nuclei nothing but comparatively young bees and hatching brood. All the queens were successfully introduced. On valuable queens we have used the same plan a good many times without fail.—ED.]



## BEE-KEEPING IN FLORIDA.

## Some Representative Bee-men of Florida.

BY E. G. BALDWIN.

*Continued from last issue.*

On the beautiful Coronada Beach, below Daytona, stands a structure of unique interest, and the owner is equally interesting. I refer to Mr. H. C. Longstreet and his bee-house. He is not a specialist, as are the men already named before, but he comes from an old bee-line, for his father, Cornelius H. Longstreet, moved down from New York to Florida in 1883, bringing 30 colonies of bees with him. Bees were hard to get in Florida in those days, and Mr. Longstreet showed his aggressive and determined nature by bringing that number of colonies the entire distance. At first he located at Mt. Dora, near Apopka, where he kept his bees for seven years. Then, becoming interested in the mangrove honey on the East

Coast, he tried moving fifty hives to the coast by wagon, rail, and boat. He left his son, H. C., in charge of those remaining at Mt. Dora. Landing with his bees at Coronada, a small island off the coast, he found the undergrowth so dense that he had first to hew out a place for even the hives to stand. Then bears and ants led him a merry chase for many years. The bears would emerge from the swamps near by at night, march up to a hive, and, with one blow of a paw, send it swashing. Then they would grab up two or three frames of honey and brood, and make off with them. Many hives would suffer thus in one night. Many a night has Mr. Longstreet sat up, rifle in hand, waiting for a shot at the intruders. The worst feature of this nightly vigil was the horde of mosquitoes. He had to wear two pairs of trowsers, tuck them into tops of high boots, and don a bee-veil—a comfortable garb for a sultry summer night! He used to recount many exciting experiences. On one occasion he chased a bear



Fig. 15.—Mr. H. C. Longstreet's bear and ant proof house-aplary at Coronada, Florida. Although built back in the '80's it is still in service.





11. Perkins' "mormon" mating hive, an ordinary ten-frame hive divided into four compartments by tin, each having a separate entrance.

around his honey and bee-house, Bruin keeping just out of his reach, till it was hard to tell which was pursuer and which pursued. Finally the bear made off for the hummuck, and a rifle-ball went speeding after him—with what result Mr. Longstreet never knew, for, while he found traces of the effect of the shot, he never came upon Mr. Bear.

The ants were almost as hard a proposition. They fairly swarmed over the place at night. In order to outwit both kinds of intruders, Mr. Cornelius Longstreet was forced to build the bee-house shown in Fig. 15, bear-proof and ant-tight. This was and is still the only bee-house of the kind in the State. It is 30 ft. long, and holds 80 colonies that are numbered inside the house and outside as well. It is shingled, roof and sides, the entrances being  $\frac{3}{4}$ -inch holes bored through the walls. The alighting-boards were painted different colors to aid the bees in locating their own hives. The shingles had to be nailed with an extra row of nails at the bottoms to prevent the bears ripping them off with their claws in their frantic efforts to get at the honey after the house was first built. You can still see their heavy scratches on the outside of the shingles about the entrances. The extra rows of nails can also be seen.

The ant-proof feature of the house is shown in the first two views. Sixteen piers, formed of 4x4 stuff, covered with concrete, and made of heart pine, furnished the foundation. About half way up from the ground, zinc cups surrounded the uprights, each cup being about 1½ inches wide, and ½ inch deep. These were kept filled with cotton-seed oil. To prevent flying bees

alighting in the oil and being lost, Mr. Longstreet devised a pair of fenders for every pier, made to drop down in front of the cups when in use, but capable of being raised for cleaning or refilling of cups. So long as weeds and grasses were scrupulously kept cleaned away from the piers the device worked to a charm; no ants were found inside the house; but let the owner forget them for a few weeks, and the pests swarmed through the house as much as ever. For this need of constant watchfulness, and also because the nocturnal ants are much less common than formerly, Mr. Longstreet now places his extra colonies in apiaries outside of the house, shown in the last view, and finds that they now do as well as inside. He will not, therefore, build another house of this sort. But it served its day and did it well. The bears, too, have practically all disappeared from that immediate section.

Before finally settling on the coast Mr. Longstreet "trekked" three times from inland to the shore, moving his bees each way. They were in two-story hives, the entrances closed with screen wire, the tops also covered with the same material, with an empty super between the top screen and the hive to give clustering space for the bees. They were moved without accident, and the migrating paid financially.

Mr. Longstreet, Sr., used, and the son still uses, the Betsinger hive, size 15x9½. Many of the original frames, brought from New York, are still in use in good condition in the apiary of the son. Twenty-seven years of continuous use for frames is a good record. Years ago the apiary was Italianized with stock of the Root strain of Ital-

ians, procured from Mr. F. A. Salisbury, of Syracuse, N. Y. Historically the old bee-house is a landmark, almost the last of its kind, and possesses a novel charm because of its many unique principles.

De Land, Fla.

*To be continued.*

## RAISING GOOD QUEENS UNDER UNFAVORABLE CONDITIONS.

Regrafting Method; the Mormon Mating-hive.

BY H. PERKINS.

Any method of raising queens should, first of all, make for good strong long-lived queens. Economy, reliability, and rapid production are also important points, and must not be lost sight of. It is a comparatively easy matter to raise good queens when weather conditions are favorable and the bees are strong and swarming; but it is a much more difficult task to accomplish the same results early or late in the season, or during an off year. It is to the latter conditions that I especially devote this article.

In my opinion the most important part of good queen-rearing is raising good queen-cells, which includes knowing how to create strong cell-building colonies and keep them in tune for cell-building. I have never been able to raise uniformly good cells in any other than strong colonies, above a queen-excluder, or in the brood-chamber when swarming preparation or supersedure was in progress.

For early cell-building I begin preparation in the winter season by setting my colonies in groups of five or six. In the spring, as soon as they will average five combs of brood, I select the strongest colony of each group; and on a warm day, about noon, when bees are flying well, I transfer one or two combs of sealed brood from the two nearest colonies to the strong one, and move the colonies, thus reduced, far enough away to compel the returning bees to enter the strengthened one, which is to be a cell-builder as soon as the major portion of the brood given it hatches. In two days after, weather permitting, I treat the remaining colonies of the group the same way, giving the brood to the cell-builder to be. The result is that, in a short time, the cell-building colonies will have their supers filled with young bees, which is just the condition needed for super-cell building.

Care must be exercised not to overdo the thing; and colonies thus strengthened must be well fed, especially during bad weather; for so early in the season the honey-flow can seldom be relied upon to furnish sufficient stimulation for cell-building.

Just as soon as my cell-builders have a super full of bees I put two combs of partly unsealed brood in the super to provide a good cluster, and put on the queen-excluder. The second day after, they will be ready for business, and I give them a culture of grafted cells between the two combs of brood.

If the number of cells accepted in this way is not satisfactory (which is often the case early in the season), I resort to the swarm-box to insure satisfactory acceptance. I will explain here, for the information of those who do not already know, that a swarm-box is a narrow box designed to hold three frames (and is best made from an old super), a wire-cloth bottom, and a board for a cover.

In stocking my swarm-box I use one comb of honey and one of thin syrup to provide moisture, and into the space between I shake about two quarts of bees and leave them confined for six hours before giving them the cells, which I leave with them over night, indoors if the weather is at all cool. In the morning the cells should be accepted and ready for the reluctant cell-builder, and the swarm-box bees returned to the colony they came from.

A queenless colony of medium strength, without unsealed brood or natural-built cells, will do as well. Under unfavorable conditions it is often impossible to get even strong colonies to build good long well-fed cells from one grafting. To overcome this difficulty I employ what I call regrafting, which I will here describe.

When I anticipate having to regraft my cells, I use larvæ two days old for the first graft, and allow the bees to work on them thirty hours. I then remove the culture from the cell-builder to the grafting-room, and, with a hot knife, clip off the end of the cells to reduce their depth. I then remove the larva with a very small hook made from foundation wire, and agitate the jelly with a blunt-pointed stick to disseminate the limpid fluid which always surrounds the queen larva of advanced age.

After waiting about five minutes to allow the surface of the jelly to stiffen a little by evaporation, I regraft the cells with larvæ from my breeding-queen. I always provide a swarm-box or kindred means to accept my regrafted cultures before giving them back to the cell-builders, because the bees are much slower to go to work on them than when grafted the first time.

I regraft only when it is impossible to get good cells built any other way, for it is a painstaking operation; but the results obtained justify the effort.

Many bee-keepers fall into the error of believing that the substance resembling peach-gum, found in the bottom of hatched queen-cells, is evidence that the cell contained an excess of royal jelly; but this is not always the case. The substance alluded to is often nothing but residue, and may be found in cells where the inmate starved to death before hatching.

When a queen-cell is sealed, nature sets to work to complete the job if possible. If the supply of jelly has been short, the queen will also be short. If it has been too short, the inmate will never hatch. If the supply was enough, or more than enough, the queen will be fully developed, but that is all.

To build cells, I quite frequently employ colonies that are superseding; but I always



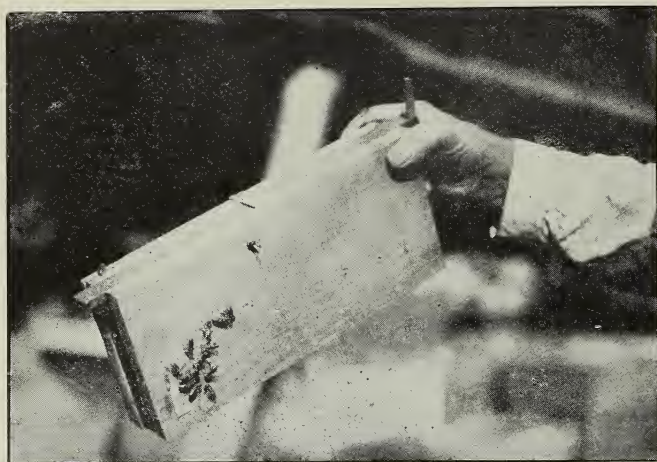


Fig. 1.—S. D. House's nucleus hive for mating young queens, one comb only being used.

remove them as soon as they are sealed, to avoid having them destroyed after the manner of natural-built supersedure cells. Likewise, colonies preparing to swarm may be taken advantage of, their cells destroyed, and a grafted culture substituted with the very best results, but available only during the swarming season.

I regard queenless colonies for cell-building (even though they are strong) as the last ditch, and only to be resorted to when all other methods fail, as they often do, especially toward the close of the season.

It is under such conditions that regrafting comes to the rescue of the bee-keeper by compelling the bees to keep the cells open longer than they otherwise would, and all the while adding to the supply of jelly.

For early-mating purposes I use a hive of my own design, shown in the illustration, which I call the mormon mating-hive. It is a ten-frame hive-body with three perpendicular saw-kerfs  $\frac{1}{2}$  inch in depth, and  $3\frac{1}{2}$  inches apart, run in each end, with kerfs to correspond, in the hive-bottom. Into these kerfs are fitted three

sheets of heavy tin, thereby dividing the hive into four completely isolated two-frame compartments. An entrance is provided on each side and end, and four individual covers with a large cover to cover all. I like this style of hive because it takes the standard-size frame, and can be stocked from any hive in the apiary, and for the same reason can be easily united for honey-gathering, or converted into a two-compartment hive for wintering by withdrawing two or more of the tin partitions and closing two of

the entrances. The heat communicates freely through the tin partitions, and thus approaches the natural conditions of a full colony. For summer mating a much smaller and more economical hive may be used. I consider the mormon hive more especially adapted to the needs of the bee-keeper who raises a few hundred queens for his own use than for the queen-rearing specialist.

Returning to my regrafting method, I wish to say that I do not want my readers to infer that I claim to be able to outdo nature, for I do not. I often find the jelly, left in regrafted cells after the queen hatches,

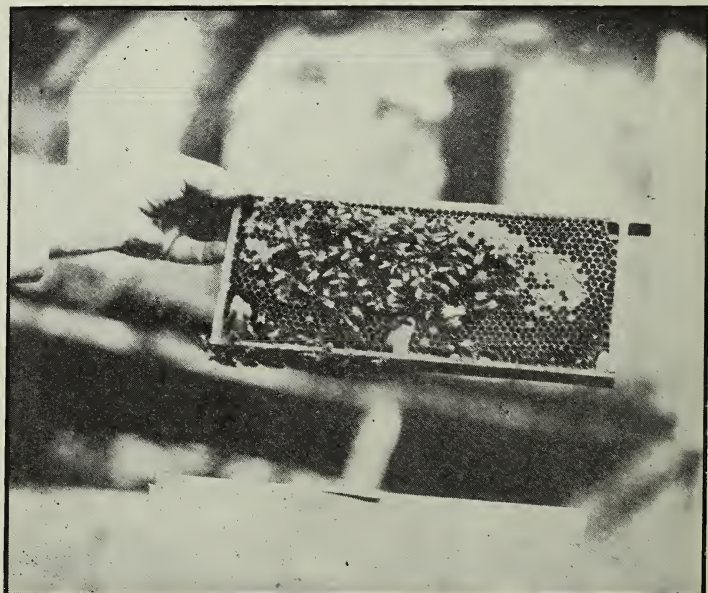


Fig. 2.—A comb about to be inserted in the nucleus-box, showing the number of bees used.



to be white and plastic, and enough to fill the cell more than the depth of a wooden cell cup. I have often had hatched cells which measured  $1\frac{1}{4}$  in. in depth, but I have never created a monstrosity, nor could I ever see that queens thus raised were any better than those raised from natural built swarming-cells; but I do claim to be able to raise uniformly good queens by this method when it would otherwise be impossible to do it.

If I am not mistaken, regrafting in one way or another has been practiced by others. The idea was first suggested to me by Mr. John Nippert, formerly of Phoenix, Arizona. The details as given there I worked out myself.

The quantities, proportions, estimates, etc., as I have given them here, are not intended by the writer to be inflexible, but rather to be subject to local and weather conditions, also to the judgment and experience of the bee-keeper.

Los Angeles, Cal.

#### HOW THE AGE OF QUEENS AFFECTS SWARMING.

**Year-old Queens Swarm Much Less than the Two-year-olds; a New Form of Nucleus for Queen-rearing.**

BY S. D. HOUSE.

During the last week of June and the first two weeks of July we went through the busiest part of our work for the season, and with this vast amount of work demanding our attention I took time to make some observations for future use.

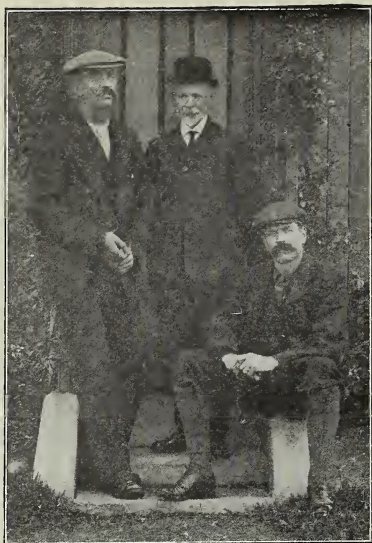
The early part of the season opened with bright prospects. Bees wintered well and built up fast. During fruit-bloom the majority of the colonies needed extra room, which was given by adding brood comb. June 1st the clover was blooming finely. I don't think I ever saw a finer stand of clover in this section, and the weather conditions seemed perfect for a good secretion of nectar; but, alas! there was but little or no



Fig. 3.—A comb from which the third queen has just mated.

secretion, the bees barely making a living. During this dearth of honey the bees gathered an unusual amount of pollen, which occupied a considerable part of their combs; and, with the very light flow of honey, egg-laying was checked. These conditions produced a desire on the part of the bees to supersede their queens, and at the same time to swarm. Usually the swarm would issue with the old queen about the time the young queen commenced cutting herself free from the cell. The old queen, being clipped, was picked up and caged, and the swarm returned to the hive, the hive meanwhile having been opened and all queen-cells destroyed with the exception of one if the stock was pure Italian. If not, I destroyed all cells and gave a pure Italian cell. The swarming impulse among these colonies was so great that the bees would issue with the last and only virgin queen in the hive. Often, while the virgin was attempting her mating-flight, the swarm would issue with her. Sometimes the bees would come out and the young queens refuse to leave the hive, so that there would be attempts at swarming several days in succession. I found that the excessive heat and insufficient ventilation were the principal causes of this persistent swarming. The raising of the hives upon four one-inch corner blocks put a stop to the trouble.

At my home apiary, about 20 per cent of the colonies swarmed, and I noted this fact—that about 95 per cent of those colonies were led by a queen that was coming two years old. The 80 per cent that did not attempt to swarm had queens reared last season, or the early part of this season. These colonies on July 12 had from 60 to 90 pounds of comb honey, while the 20 per cent that



Model British apiary owned by Herrod & Stuart at Luton, Bedfordshire, England.

swarmed had from 207 to 30 pounds. Why this great difference? First, the younger queens, with greater vigor for egg-laying, would not allow the bees to clog the brood-nests with honey and pollen. If the brood-chamber becomes clogged with honey, bees are slow to start work in the supers, and will usually prepare to swarm (unless they have an *exceedingly large hive*), before starting their supers.

To start bees in supers under the above conditions, unseal the honey and drone-brood; cut out cells and cell-cups, if any, or remove two or three combs of brood and honey, and give in their place frames filled with full sheets of foundation. The brood removed will form a good nucleus, which will build itself into a good colony by the end of the season where increase is desired,

And, again, the fact that those young queens are at the head of a larger family, and also that they have greater activity in egg-laying, seems to inspire the worker bees to greater activity. So much for *young queens*.

#### HOW TO GET YOUNG QUEENS.

Bee-keepers as a rule are not particular enough in breeding their queens, usually allowing each colony that swarms to re-queen itself from its natural cells. Such queens are vitally the very best; but vitality is not the only qualification desired. We should have a standard of qualifications,



and breed to that standard. Queens also must be line-bred if we expect to improve the strain. This work can best be done by a specialist, as the large producers of honey





Exhibit at the Orange County "Carnival of Products," Santa Ana, Cal. Mr. Roy K. Bishop, who sent this picture, wrote that their Bee-keepers' club has 42 paid-up members who represent about 90 per cent of the industry in the county. The large cage at the right was used for bee demonstrations.

have not the time to give that the work demands.

As soon as the rush is over, say about July 15, I take several strong colonies, dequeen them, and place them over feeders. As they start cells from their own brood, on the sixth day I cut out all cells, using the royal jelly from them to start the cups, giving about 24 cups to each colony. I take combs from the center of the brood-nest, cut off from the bottom of the comb  $2\frac{1}{2}$  inches, and insert the bar with cups and larvæ, and close up to the brood. After the cells are sealed I remove them and place them in an extracting-super until the eleventh day, when they are given to the nuclei, Fig. 1, to hatch and mate.

To make this nucleus hive, take two  $\frac{3}{8}$ -in. boards, the size of a regular shallow brood-frame, and nail on one side of each a  $\frac{5}{8}$ -in. rim of wood. The two boards are strapped together at the bottom, with strips of tin, the frame containing the comb being between. A piece of tin folded at right angles makes the cover, and a  $\frac{5}{8}$ -inch hole the entrance. At an out-apiary I take from a shallow extracting-super combs filled with honey and bees. Fig. 2 shows the amount of bees used. I put these in the baby nuclei and take them to the home apiary. In this way the bees will not desert the nuclei, and I give them a cell ready to hatch. If we allow the young queens to lay for a day or two the same nucleus will make several queens. Fig. 3 shows a frame from which the third queen has mated. I do not have these small nuclei sitting too close to strong colonies, as the young queens making their maiden

flight are apt to return to the stronger colony. The larvæ that we transfer to the cups should not be over twelve hours old to get good queens. Queens will mature from much older larvæ, but their usefulness is of short duration. The conditions in cell-building colonies should be as near to the natural swarming impulse as possible.

Camillus, N. Y.

## A MODEL BRITISH APIARY.

BY D. M. MACDONALD.

I have pleasure in presenting GLEANINGS' readers with an illustration of what I have selected as a model British apiary. It belongs to Messrs. Herrod & Stewart, and is situated at Luton, Bedfordshire, about thirty miles north of London. The site is an ideal one, lying on the gentle slope of a low hill facing nearly due south, and the situation is well sheltered from the cold prevailing winds. The spot with its surroundings presents, as a whole, a most pleasant picture. As can be seen, the hives, which are mainly of the well-known W. B. C. type, are arranged systematically with ample space between individual colonies, and also between rows. It will soon be an apiary in an orchard, because the young fruit-trees and bushes are fast growing up to add to the picturesque appearance. These are so arranged that they not only lend themselves to the adornment of the scene but also to present well-defined landmarks for the bees of each colony when returning from the





F. B. Cavanagh's Jackson automobile with trailer attached for carrying bees and supplies to and from out-apiaries.

fields, and also to guide young queens arriving home on their mating-trip.

Baby and three-frame nuclei are scattered about promiscuously in the season, as queen-rearing is an important branch of the business. The sale of swarms is, perhaps, the most extensive in the country, and a large trade is done in honey-selling. Luton is very favorably placed for such a business, as it is centrally situated, and in close touch with several of the leading railways leading to all parts of the compass. The management of the apiary is mainly in the capable hands of Mr. Stewart. It is really a school of apiculture where a goodly number of youths of both sexes are grounded in all the essentials of bee-keeping; and every year student-helpers pass from its portals to all parts of the world, well fitted to manage any apiary.

The apiary was greatly admired by the delegates from various countries who attended the recent Franco-British conference of bee-keepers. The late Mr. Broughton Carr, after whom it has been named the W. B. C. apiary, considered it a model of what a collection of hives should be, and it is illustrated in the latest edition of the "British Bee-guide" as a typical and specimen English apiary. Any one visiting it can not but admire not only the artistic arrangement as a whole, but the perfect specimens of hives, the powerful colonies found everywhere, the neatness and system of every individual feature. The honey-house, storeroom, workshop, and study are each perfect of its kind, and models of what such places should be in

one's ideal of these adjuncts of every apiary. The honey-house is large and commodious, and fitted up with all requisites for carrying on an extensive sale of this popular commodity. In a corner are specimens of honey from almost all parts of the world, and samples of all grades of the home-produced article are in evidence. The workshop has a full equipment of tools of all kinds required in hive-making or repairing. Perhaps the store-room is in a way the most commendable feature. Every thing has a place, and every thing is in its right place, so that, in an emergency, tools and implements are always to be found when they are required—a point too often neglected in many apiaries. The photographic room proved of great interest, as some excellent specimens of the art are stored on shelves, laid by in cupboards, or exhibited on the walls. Here, too, is a powerful microscope, for the owner has been a diligent student of apiculture in more branches than that of honey-producing, and has studied not only *Apis mellifica*, but also many other hymenoptera. A capacious fumigating-chamber forms part of the equipment, and combs are placed therein periodically to insure their being kept sweet and clean.

Mr. William Herrod has been for over a dozen years a prominent English bee-keeper, and recently he has pushed his way by sheer merit to a place in the front rank. He is well-known on this side as the Secretary of the British Bee-keepers' Association, and under his able guidance this society bids fair to add to its influence and prestige. He



acts also as chief expert to the British Bee-keepers' Association, as well as being their librarian and lecturer. He is expert and lecturer to several of the leading county associations, and frequently acts as judge at some of the principal honey shows, and he has had the unique experience of being honored with lecturing on bees before the king and other members of the royal family, as well as several foreign royalties.

Mr. Herrod is a first-class hive-maker, and can turn out a hive as perfect as any manufacturer. He is an excellent amateur photographer, and has gradually accumulated over 600 lantern slides covering every phase of bee-keeping. Some good specimens of practical manipulations were noted, and flowers adapted for pollen and nectar supply were admirably illustrated; but perhaps the most interesting were some of the more delicate features of the bee's anatomy. This collection is being steadily increased, and will soon number 1000.

One of the most interesting departments of Mr. Herrod's manifold duties is his lectureship at Swanley Horticultural College, where he educates a large number of men and women, and the good work he performs is certified by the extensive list of graduates who yearly qualify for experts' certificates.

Mr. Herrod has recently acquired the proprietorship of the *British Bee Journal* and the *British Bee Record*, and from the beginning of this year he has been acting as joint editor of both publications. Under the very able guidance of the senior editor he is acquiring a knowledge of the technical work, and gradually fitting himself for the full duties of the office when Mr. Cowan lays down the reins. That such a day may be very far distant will be the sincere prayer of every bee-keeper, not only in these islands, but wherever apiculture is being carried on. Mr. Herrod has a noble tradition to uphold, and it is no mean position he will occupy in filling the place of such lights in the apicultural world as Messrs. Abbott, Peel, and Cowan; but I feel confident he will worthily carry on the good work of the past thirty-nine years, and still further advance the banner of progress in apiculture.

Banff, Scotland.

## THAT AUTOMOBILE TRAILER.

BY F. B. CAVANAGH.

For a man to make two trips, each of 50 miles, with 25 hives of bees, and in a single night, would be impossible with a horse. With an automobile we covered the 100 miles with plenty of time for loading and unloading.

The car is a two-cylinder 24-horse-power Jackson, with the detachable tonneau removed and a trailer attached. The trailer is built to carry 1200 lbs. individually over the rear springs, while the front end, resting on the deck of the auto, will carry easily 600 lbs. more. When empty the front end

of the trailer is about all one man cares to lift, and is very nearly the same weight on the deck as the tonneau would be. If the readers of *GLEANINGS* desire it I will furnish a mechanical description of the trailer later.

It will be noticed that the front end is on a bolster held by a single bolt through the reach. The bolster connection is of great importance, in that it must be very strong, and flexible, to bend not only for the side ruts and in turning, but also as hills or knolls raise or lower the trailer wheels out of line.

We do not shut the bees in nor do we fasten the hives together in any way. A removable wire cage completely surrounds the hives (the front section was left off in the picture), so that nothing can fall off the load. If daylight approaches, causing the bees to fly, we draw the canvas top tightly over the load (it is tacked to one side), and confine every bee to the cage. A fine breeze circulates through the hives; and, although the weather was very hot, but few bees tried to escape through the screen. I suppose it must have taken their nerve to see through grated bars the landscape swiftly whirling by. The worst feature was in unloading the bees at night, and, as every bee-keeper can imagine, they "didn't do a thing" but sting, sting, sting, with bees all over the hives when we reached the yards. However, with good smoke we managed very well, and left the trailer quite free of bees each trip. I never care if bees are out of the hives so long as the stragglers are at the yards, one or the other, so that they can hunt a hive when daylight appears.

We're I to sign my name and say no more, the bee-keepers would all be wanting a trailer *a la* motor; but I must mention the less rosy side. The weight of the bees and the hard pulling at from 5 to 25 miles per hour got away with the 3½-inch rear tires in a short time, so that one blew up with a cannon-like report on next to the last trip. So completely demolished was it that we removed it and ran in on the rim, and hauled another load a short distance the same way.

At another time a loose screw in the timer cost us three hours; and, again, two punctures caused slight delays. Part of the time I had a friend of jovial and adventurous temperament, but the novelty and joy of the rides gave place to weariness as the "wee sma" hours approached. Moving bees is strenuous work, even with an automobile trailer; but it is very easy on the bees. They have a nice cool ride, with little jolting, which is soon over. Scarcely a hive will shift from its position *en route*. Our roads are mainly gravel, although there were several miles of the worst kind of sand, and some hills where all the power was needed on low speed.

The picture shows only a load of supers, as we had no conveniences for picture-taking when the bees were moved.

With this, my first trailer load, I burned out a bearing in the crank-case by not having the mechanical oiler working. Seeing

a weakness here, I installed a dash oil-gun so that a small additional quantity of oil could be forced into the crank-case whenever needed. It is very essential, especially in doing heavy work with an automobile, to use plenty of oil all the time. Likewise to keep tires well pumped up, and every thing well tightened about the machine.

Tires are the largest unavoidable expense. After blowing up a  $32 \times 3\frac{1}{2}$  tire I installed  $33 \times 4$  tires of heavy-car type on rear wheels, also extra inner casings in the front tires, which reinforce the outer casings.

We figure that, while an automobile is expensive, speed is essential in out-apiaries scattered as far as 20 miles apart. A horse would take three hours in going 15 miles, or six hours spent on the road. The auto makes the same distance in  $\frac{3}{4}$  of an hour or less, and with much more comfort; consequently we work our eight yards nearly as easily as though they were near home. In a day of ten hours the horse outfit leaves four hours to work with bees, while the auto leaves  $8\frac{1}{2}$  hours, or  $4\frac{1}{2}$  hours in favor of the auto in each day's work. A saving in wages of four men for  $4\frac{1}{2}$  hours a day is 18 hours for one man. At 20 cts. per hour this makes \$3.60, which more than pays our expense of the automobile trip. Does it pay to own an automobile? We think it pays us well, although not so much for hauling bees as we anticipate for the extracting-power outfit, motor drawn, which is nearly completed. It contains power extractor, engine, steam capping-knife, combination gravity and wire-cloth strainer, and, in fact, every thing we could think of for convenience, all mounted on the trailer, and covered with canvas and wire cloth. At a later date we may expose our little selves at work taking the spoils from the bee with this horse-terrorizing contraption.

Hebron, Ind.

[We had the pleasure of visiting Mr. Cavanaugh early in the season, at which time we took some pictures which will be shown later. With a number of outyards, scattered as they must be, an automobile for an extensive producer is a money-saver, especially if equipped with this very ingenious trailer. For business purposes we believe that nothing is better than a used car, rebuilt and overhauled at the factory. Such a machine, while a little out of date, perhaps, in a few details, is just as good as a new one for hard service, and at a cost of only about half the price of a new outfit.—ED.]

## SOWING SWEET CLOVER WITH OTHER CROPS.

BY FRANK COVERDALE.

The writer of the following is, perhaps, the best authority on sweet-clover growing of any man in the United States if not in the world. His extensive experience in growing sweet clover himself, and also his opportunity of picking up information on the subject, owing to his position as lecturer before farmers' institutes, and as contributor to various agricultural papers, has made him the authority that he is.

Mr. Coverdale has promised a series of articles for GLEANINGS a little later. The following is an extract from one of his recent letters.—ED.]

White sweet clover can be sown any time from early spring until August 1, but no later in this locality. I prefer sowing it the first week in May, in good rich ground only.

Judge Quarton, of Algona, Iowa, sows white sweet clover with champion oats—about 20 lbs. of the hulled seed to  $1\frac{1}{2}$  bushels of the oats per acre. He cuts his oats high, then gets a fine crop of hay in October, and the second year pastures the ground.

A thin crop of barley will make good if sown on rich ground, if the drouth is not too severe. But I have never found a catch of sweet clover when sown on poor worn soil. The soil must be well supplied with humus or lime, or both. Any pasture where either cattle or hogs have been grazing for two or three years will, when plowed and put in fine shape, give excellent results. In other words, the sweet clover will be a sure catch. Twenty pounds of seed per acre will pay every time.

Timothy also goes well with sweet clover. It is true that one can sow white sweet clover on almost any fairly good soil and get a catch in spots, but this is not very satisfactory. The same field, if seeded to other legumes and timothy, then in a year or two plowed up and seeded to sweet clover, will give very satisfactory results. The humus will answer every purpose, and the lime also sweetens up the soil so that it will grow. Sweet clover will not do well in the Middle States until the people learn what kind of ground to sow it on.

Delmar, Iowa.

## Is it Advisable to Feed Cheap Glucose to Stimulate? Can we Prevent Syrup from Going into the Supers?

How will cheap glucose syrup do for stimulative feeding for warm weather? I want to increase for a fall honey-flow. My bees are weak in numbers, and I shall have to get my colonies stronger or I shall not get much honey this fall.

I wish to ask if you know of any device to be used in stimulative feeding so as not to have it mixed in the sections or extracting-combs, as we know that, under the pure-food laws, mixing glucose spoils our honey for market, as we find that a small proportion of glucose is bad, and is easily detected.

Lexington, Ind., July 8.

L. E. MACE.

[We would not advise cheap glucose for stimulative feeding under any circumstances. Nothing is cheaper than the very best quality of granulated sugar. Glucose has so little nutriment for the bees (for the price) that you will find that granulated sugar will be just as cheap, if not cheaper, and far safer to feed. Again, we doubt very much if you can get bees to take glucose at all. We tried some experiments a few years ago, giving the bees glucose diluted with warm water; but they simply would not take the vile stuff. You can get them to take it by mixing it with honey or with sugar syrup. But that is poor economy. What is the use of feeding bees something that they don't like and will not take? We might as well recommend mixing oats and sawdust together to feed horses.

We know of no device that you can use to prevent syrup fed in the brood-chamber from going up into the supers if you allow the brood-chamber to become too full of the feed. In fact, we know of no reason why you should feed when the honey-flow is on. Unless bees are gathering honey from the field, the supers ought to come off.—ED.]



# Heads of Grain from Different Fields

## Feeding in Order to Get Bees in Good Condition for Winter.

I am up against the worst drouth that this part of Kansas has ever known; and as I have about 90 colonies of bees, and they are now getting absolutely nothing, and I see no chance for their getting any thing this season. I am figuring how to get them through the winter. Possibly, if a rain would come soon, there would be a little in the fall; but I think it unlikely. Now, what bothers me is this: The bees have practically stopped rearing brood. Very little can be found anywhere. If I let them go with a big feed from the Miller feeders in the fall I should think that there would be few besides old bees, and they would go the route and die in the winter. It seems to me that, if I begin feeding them half a pint of thin syrup about Sept. 1, and keep it up for a month, and top that off with a Miller feedful of thick syrup, I should have a lot of young bees, and plenty to get them through. I never had so many bees before, and never had the drouth either, and I do not wish to incur any more expense than is needful; but as I am at much trouble and expense I do not propose to lose the bees either, and ask you if I am right or not.

This locality has had no rain for five weeks, with a temperature close to (and often above) the 100 mark all the time. The corn will make a good crop yet if rain comes within ten days, as it has been well tended, and all moisture conserved. Wheat was extra good, and oats also. Hay was short. Pastures are as brown and dry as a griddle cake, and I have to feed my cow which runs on three acres.

Sabetha, Kan., July 11.

FRANK HILL.

[You are "up against" a peculiar proposition. If your bees have stores enough so that they can get along until about Sept. 1, or say, even two or three weeks later, it would be better to begin feeding them than to feed them now. Your colonies are overpopulous just now; and with no prospect of getting any honey these bees are consumers. If you go to feeding them now, these bees will eat up a large quantity of stores. It would be our judgment to let them get along as they are until the strength of the colony is reduced somewhat, and then begin feeding somewhere later in the season. This will start brood-rearing provided you have young queens. If your queens are old you may not be able to get them to lay much, even if you start feeding.]

Stimulative feeding should be practiced—that is, half a pint or a pint of syrup daily should be given until the brood is pretty well through the hive; then as the season draws to a close—that is to say, when there is danger of cold weather coming on—we would advise giving one large feed so that the hive will be full of stores. Possibly the stimulative feeding that is kept up during the time brood-rearing is on would fill the hives full enough. But we have found this: After a considerable period of stimulative feeding, the old bees will be worn out and the colony will dwindle in strength very rapidly, and by mid-winter there will be a small force unless you take pains to see that a large amount of brood is raised. See editorial remarks on stimulative feeding elsewhere.—Ed.]

## Swarms that have Lost their Clipped Queens Divided into Nuclei.

I should like to know if any one has tried dividing a colony that has lost its clipped queen in swarming into three or four nuclei, and stacking the hives one on top of another, with a flat bottom to answer as top and bottom between each story, facing the second story backward, the third forward, etc.

I have tried this plan, but have failed to keep the bees together (which was the object), and at the same time save a few queens. My experience has been that the bees swarmed, and left only one queen in the stack. I explain it this way: They have such a desire to swarm that they are not satisfied, or they hear the piping of the other queens in the other stories, and become excited from that source.

Canton, S. D., June 17.

L. A. SYVERUD.

[We do not know that anybody has tried the plan outlined, of tiering three or four hives one on

top of another, with the entrances facing in opposite directions. If so, they have never reported the result. It seems quite reasonable to suppose that, during the swarming season, the piping of one queen in one of the hives might be heard by the bees in the hive above or below, and thus excite the colonies in the whole stack. Your explanation is probably correct.—Ed.]

## Was the Queen Fertilized in the Hive? Italians vs. Blacks for Robbing.

I have a fine large queen that was fertilized in the hive. The old queen was killed in a queen-trap which I left securely fastened and in good shape on a good hive. I cut out cells and left a large queen just hatched, and there was nothing but capped brood in the hive. Twelve days after, the young queen had pretty nearly filled frames with eggs, and there were lots of young larvae. The trap was still secure, and the young queen was very large. This is the third case I have seen like it.

Do pure Italians rob as badly as those not pure? I have a number of pure swarms, and all the spring they were on hand when I opened a hive, and now they keep coming into a building where I am sorting and scraping honey. They are very noticeable by their yellow bodies, and black bees are conspicuous by their absence.

This is the poorest year I have yet seen for honey, Marshall, Mich.

G. F. PEASE.

[There is some mistake about the young queen being fertilized in the hive. Either she was in the old hive together with the old mother at the time the queen-trap was put on the hive by you, or else she managed to go through the perforated metal. Occasionally we find a very small virgin that will go through the zinc; and if the queen was not in the hive at the time the trap was placed on it we should conclude that this queen must have passed the metal, met the drone in the air, and, in the usual way, came back again. Almost every report of this kind, when carefully investigated, has shown that the mating took place in the air in the regular way.]

As a general thing it is considered that pure Italians are less inclined to rob than the ordinary black bees. We have noticed this: That black bees and hybrids will usually be very conspicuous when robbers are about, while leather-colored Italians will not be seen at all. For example, at one of our out-yards we had just one colony of black bees, and about a hundred colonies of pure Italians. There was a case of robbing on, and we should say that there were a dozen black bees to one yellow one. On the other hand, it often happens that the very best workers of Italians will be the meanest robbers in the whole apiary. It is possible that the yellow bees that you had were fine workers. The old red-clover queen that we had something like 30 years ago, whose bees would actually store honey in the supers while other bees were doing nothing, and killing off drones, was the mother of the worst robbers we have ever had. If there was any robbing going on we could always find they were coming from that hive more than from any other. As a general thing, however, we should say that bees that are inclined to rob are not good workers, and it is seldom that good workers are mean robbers.—Ed.]

## Buckwheat—how to Grow it Profitably Without Interfering with Regular Crops.

The past season we tried growing buckwheat on a small scale. We always wanted to grow some, but did not want to take up the land at the expense of the regular crops. While it is a paying crop I do not believe that it pays well enough to sow it on land worth \$150 to \$200 per acre. But, on the other hand, if it can be grown in between your regular crops without interfering, but aiding the same by putting the ground in first-class condition, it is worthy of our consideration.

We plowed three acres as soon as the wheat was harvested in the field, to be sown to wheat again in the fall; but on account of the drouth prevailing at this time we could not sow the buckwheat until July 21, when we had a light rainfall; and despite the continued dryness it was in bloom by Aug. 16. For some reason or other (dryness, probably) the

bees did not work on it to any extent till September, at which time there was a regular line of bees from the apiary to the field.

As soon as it was ripe we cut it with a grass-mower, and, later, hauled it in, thrashing it at the same time. We had ten bushels of buckwheat, and the straw was put on the orchard as a mulch for winter. While the yield was nothing extraordinary, it should be remembered that it was very dry at the start, and that the chickens had free range of the field, of which they readily took advantage. The buckwheat was fed to the chickens during the winter by way of a dainty, and was greatly relished by them.

When the field was sown the soil was in very bad condition, owing, as before stated, to the dry weather; but after harrowing it once with a spring-tooth harrow, after the removal of the buckwheat, it was as fine and loose as necessary; and at this writing, the wheat (now nearly ready to harvest) is up to that put in in the usual way. So in summing it up it can be seen to be quite profitable, the expense being only for the seed and labor.

Lititz, Pa., July 10.

C. B. SNAVELY.

### Brushing all the Bees on the Ground to Get Rid of Laying Workers.

On page 376, June 15, W. W. Durham tells how he got rid of a laying-worker colony. He said: "On looking at them the following morning I found a few dead bees in front." My view would be that, if he had looked around on the ground, he would have found more than a few dead bees, and that he simply destroyed his old hive, and had a swarm to replace them; so, except for getting a new queen, he was no better off than before. To be sure, he got rid of the laying workers, but also of all of the rest of the colony. Am I not right?

A short time ago we had a laying-worker colony that refused to start queen-cells, so we took the colony some distance away and took out all of our frames and brushed the bees on the ground, then put back our frames and exchanged places with a strong colony. As the laying workers can not find the location of their hive they were left on the ground to perish, while the rest of the bees flew back to their old location where we had placed a strong colony. We then gave the hive that had the laying workers a chance to make a queen, which they did, and to-day it is one of our strongest colonies. Is not this an easy way?

MRS. L. B. CAMPBELL.

Santa Fé, Isle of Pines, W. I., July 6.

### Prairie Clover as a Honey-plant.

I am sending you a sample of flowers which are all over the hills and prairies here, and from which my bees gather a large amount of honey. The last of the alfalfa was cut a week before sweet clover came in bloom; but in the mean time a heavy flow was on, and I was puzzled. While bringing home our tractor we ran out of gasoline, and were obliged to take a crosscut of two miles to the valley; and all the way I found these flowers, and bees working on them everywhere. Many of my hives have four-comb supers on, and the flow is not more than half over. Please let me know what kind of flower this is. There is another just like this, only the petals are bright red. The pollen is the same color.

Elmo, Mont., July 19.

A. H. BELL.

[The plant inclosed with the above letter is what is commonly called "prairie clover." Gray's Botany tells us it belongs to the pulse family. From that book I quote: "Prairie clover: family, *Pulse*; genus, *Petalostemon*; species, *Macrostachys*." I think that, during the past few years, this plant has been sent us several times, as I find we have a specimen of it in our herbarium. It does not follow that it yields honey every season, as above described. There are many plants that give a large amount of honey occasionally, when every thing seems to favor, while they may not give another like it in some years.—A. I. R.]

### The Cause of the Beeswax Explosion.

On p. 31, Jan. 15, I read your account of an explosion of beeswax. You are correct in presuming it was caused by the immediate conversion of water to steam. It was found by Faraday that when water is freed from air the cohesion of atoms is so great that it does not boil until it reaches a mean temperature of 262° F. The wax inclosed the water,

thus closing off the air. These same conditions (a film of oil surrounding water) is the accepted theory of the cause of most boiler explosions. When water does boil under these conditions we have a terrific rupture or explosion.

Joliet, Ill.

JOHN E. STALEY.

### Shipping Bees from a Warmer to a Colder Climate in Midwinter.

Would it be possible to ship bees in hives from South Boston, Va., to Alberta, Canada, in January or February? How should they be packed—with or without screen on top?

South Boston, Va., July 29.

G. H. BERG.

[It would be much easier to ship bees from Canada to South Boston, Va., than from the latter place to Alberta, Canada, during the time mentioned. To answer your question direct, we don't know whether you could ship bees at that time of the year into a colder climate, without bad results, or not. As a general thing, we do not consider it advisable to stir up bees before they go into a long winter sleep; and yet, on the other hand, we have known cases where colonies were moved in midwinter by sleigh and by railway train, then put into winter quarters, and yet came out in the spring in fine condition. If you put the bees, after moving, into a nice quiet cellar, having a temperature not lower than 40° F., nor higher than 50°, the chances are that the bees will come out in the spring in good order, even though they be moved in January or February.—Ed.]

### Massachusetts Convention of Bee-keepers.

The Massachusetts Society of Bee-keepers held their annual field-day meet at the home of Mr. H. W. Britton, Stoughton, Mass. Situated in a beautiful pine grove, gradually sloping southwesterly to Britton's Pond, a large and handsome sheet of water, and broad meadows with extensive woodlands in the distance, makes the situation of the Bungalow Apis an ideal one. When we add to this the cordial welcome and genial hospitality of Mr. Britton and his family, an ideal day, and three or four hundred enthusiastic bee-keepers, the instructive address of Burton N. Gates, our efficient State Inspector, and the competent handling of bees by President Britton, Beni. P. Sands, and the "Bee-king," M. W. Barrett, it may be seen that nothing was lacking to make the day a bright memory to all who were fortunate enough to be present.

Resolutions were adopted favoring a stringent regulation of spraying, by the coming legislature. Several members were added to the roll of the society.

Everett, Mass.

T. J. HAWKINS.

### Bee-keeping in Southern Florida.

Can you give me any information as to the success of bee culture in Southern Florida below the frost-line? that is, do bees do well in the sub-tropics of the United States?

Richmond, Ind., July 19.

F. N. FAGIN.

[You will see by a series of articles now running in this journal, from the pen of E. G. Baldwin, that bees can be kept very profitably in Southern Florida. We would refer you particularly to the article in our issue for July 15, p. 426. There are many locations much further south in Florida that yield considerable amounts of honey. One of the most extensive bee-keepers in the world is located near the extreme end of the peninsula.—Ed.]

### Two Extremes in Treating Foul Brood: Which is Right?

The McEvoy treatment of foul brood seems to stand between two extremes. I have a bee-keeping friend who says, "Burn every thing that was ever touched by foul brood—not only the frames but the hive-bodies. Burning them out, charring them till coffee-brown, will not protect you." There is another extreme. A certain writer said in GLEANINGS some time ago that he places the affected colonies on top of a strong colony which will clean house thoroughly. He also says that he will use the extracted combs that were on top of diseased colonies, the following season. Isn't that rather risky? Kindly let me know your opinion on the following question:

My colonies got foul brood late last fall. The colonies showing foul brood got the McEvoy treat-



ment. For the sake of safety I cut out all combs from extracting-supers, melted the wax, and boiled all frames about ten minutes. When taken from the water some of the wax and slumgum, swimming on the surface, adhered to the frames. Would you consider it absolutely safe to use such extracting-frames again? I do not wish to take any risks. The man who places diseased colonies on top of others would say they may surely be used. My bee-friend here in Detroit would say, "Destroy them." Foul brood is certainly enough to try the bee-keeper's soul. It broke out on me again this spring; but now I hope to have it under control.

Detroit, Mich., June 1.

L. LIST.

[There is a golden mean in this matter of disinfecting hives. We advocate using a gasoline-torch or a little dry straw, scorching the inside of the hive. This is ample. It is not necessary to char deep.]

In nine times out of ten, and possibly ninety-nine times out of a hundred, it would be safe to use extracting-combs that have never contained brood, that have been over a sick colony. But there is a chance; and on the principle of erring on the safe side we would advise melting up such combs.

The treatment that you gave your frames was sufficient to disinfect them, in our judgment. We should have no hesitation about using them again.

Queen candy may carry the disease if the honey of which it is made is not boiled; see editorial remarks elsewhere. Most if not all queen-breeders boil their honey before making candy of it.—ED.]

### A Swarm Brought Down with a Spray-pump.

I am a Leghorn-egg farmer, and a bee-keeping friend of mine presented me last April with a fine strong colony of black bees, and, being in the greenhouse district, I suppose they made increase very fast, for nearly a week ago I noticed signs of a desire to swarm. Yesterday, May 28, at 9 A.M., going by the hive, I noticed the air full of bees, and a quart or two in front of the hive. Being very busy, and not knowing how to go about it to stop the swarm, and not being confident of being able to handle it, even if it did settle near my place, I strained my confused mind to devise some means to stop it, and this is the presumably unscientific thing I did; I got out my sprayer, put on the spray-nozzle, and soaked every thing in sight—hive with a quart or two of clinging bees; the entrance, and into the hive as far as the spray would go; also the bees in the air as far as I could reach. Within five minutes the bees in the air had settled on the hive, when they got another good soaking, and I was delighted to see them all going into the hive as fast as their bedraggled condition would allow them. However, they were not cooled off as much as I thought they were. About noon the same day I noticed what I supposed to be a hanging ball of bees in a tall hickory-tree about ten rods over in neighbor Coulon's garden; but on going out to the hive I found every thing quiet, and thought my eyesight must have deceived me. However, about 5 P.M., my duties taking me under that particular tree, I found the air full of bees, and the swarm in the tree (for swarm it was), melting away as fast as it could. Well, I considered that swarm as good as lost, for I expected every moment to see them strike out for their new home; but, no! there was another surprise for me. In five minutes they were all circling in the air, and then they went back to the hive. I then immediately opened up the hive, an old eight-frame one, found the queen on the fourth frame, and transferred these four frames of brood and comb to the new hive; put a new hive on the old stand, and closed both hives up. I found one queen-cell on frames transferred to the new hive.

Mt. Clemons, Mich.

T. J. ASHLEY.

### The Mischief King-birds can do in a Queen-rearing Yard.

I have been troubled for the last two years by king-birds catching my bees, and especially the young queens. I know they catch bees, for I saw one perched on the top rail of the grape-trellis which runs over my hives, and every minute or so he would dart out and come back with a bee in his beak, which he killed by rubbing it on the trellis.

Two or three of these birds could make serious inroads on the workers in the spring, as sixty bees is a low estimate for each bird per day. But the worst is, I find it next to impossible to get a young

queen started before August, when these birds leave the vicinity. Last year I had two colonies queenless for a long time, and at present have two queenless, one of which has been so since June 8, which I tried to queen by the use of West protectors and queen-cells, and have given them eggs, and brood-frames with capped queen-cells; but they hatch and disappear. The hives are rather close together (eight in a thirty-foot row), but I have them grouped and painted in contrast, and, further, I succeeded last year when the hives were not so well defined, but after the king-birds left.

This afternoon I saw an old king-bird and three almost grown ones perched on the telephone wires which run over our yard forty feet south of the hives, all busy. I understand these birds are protected by the law, and I should like to know if any thing can be done to dispose of them in a case like this.

Elyria, O., July 24.

WM. J. MILLER.

[Nearly forty years ago, when A. I. R. was learning his A B C's, the writer, a lad then about ten years old, observed king-birds catching bees in exactly the way you have described, and quite as often. The birds would have some perch, and every now and then would take a rapid flight over the bee-yard, catch a bee, return to the perch, and kill its victim. We saw the birds catch hundreds and hundreds of bees, and at that time we remember A. I. R. complaining that he lost a good many young queens on the mating-flight. We were authorized to kill them off with a rifle, when the nuisance disappeared.]

We think there is no question at all but that the king-birds are responsible for the loss of your young queens. A queen-bee when in flight is larger, and would be more apt to attract the birds than the ordinary worker-bees, and hence a very much larger proportion of them would be killed than of the workers. The obvious remedy is a gun. We do not think there is any law that prevents your shooting them off when they are destroying your property, for king-birds are known to do a lot of damage in a queen-rearing yard. The law permits one to shoot rabbits on his own premises when they are barking trees or otherwise destroying property, even though the season is closed for shooting them. While the law makes no provision for king-birds, under the circumstances no one would raise any objections to your shooting them, we are very sure, unless you have some jealous neighbors who would be inclined to make you trouble.—ED.]

### Is the Killing-off of Drones a Sure Premonition of a Drouth?

We have had very peculiar conditions for this section of the country. April 15 our bees were getting honey from a profuse bloom of white clover and horehound. May 1 a cold snap, with frost, struck us, which stopped the honey-flow, and a drouth set in which continued until June 20. However, we had premonition of the drouth, as the bees began killing off all drones, and even the young queens from colonies which had swarmed—a sure indication of a long dry spell. I notice that many of your correspondents report this condition, not knowing why the bees did so. But it is an infallible sign. At this time the clover has come out again, and the bees are at work on that, and on catnip and sumac, as well as other flora, with a good crop of goldenrod coming on for a fall supply of honey.

Reed's Spring, Mo., July 12.

N. T. GREEN.

[Your statement is only partly right. Bees may kill off drones when a drouth is in prospect; but if they do so it is not because of the drouth but because honey is falling. In the same way they might kill off drones when a long wet spell is about to come on—not because of the large amount of rain, but because no honey is coming in. When bees start killing off drones we consider it an infallible sign that honey is beginning to fail, if it has not failed altogether. Beyond that, such actions mean nothing.—ED.]

### Knew the Effect.

TEACHER—"Tommy, do you know, 'How doth the little busy bee?'"

TOMMY—"No: I only know he doth it!"

—*Technical World Magazine.*

# Our Homes

A. I. ROOT

It had been good for that man if he had not been born.—MATT. 26:24.

I, the Lord thy God, am a jealous God, visiting the iniquity of the fathers upon the children unto the third and fourth generation of them that hate me.—EX. 20:5.

A few days ago we were to have a board meeting. Some things were urgent, and we were all assembled except Ernest. I had seen him but a few minutes before; but when he is busy he sometimes dodges about so suddenly that it is hard to keep track of him. While I was making inquiries I distinctly heard him talking. I looked in his office, in Huber's office, and opened doors right and left; but although I continued to hear him talking earnestly and plainly he was nowhere to be found. His well-known tones rang out sharp and clear from the *empty air*. I stood with wide-open mouth contemplating this new wonder in the universe; and then, dropping my eyes a little, I saw a girl making the keys of her typewriter rattle while the sounds from the phonograph pointed in my direction; and then the crowd around me laughed at my bewilderment. Just think of it! Sixty years ago the children were telling in school that a man across the way from the schoolhouse had a machine that would make your picture stay in a looking-glass so it could be shown among your friends. People would not believe it; but in an incredibly short time those old daguerreotype pictures were being passed about. The people rejoiced, and are rejoicing *still*, that we can not only see our friends of a former generation, but we can see how *we* looked sixty years ago. And *now* after we are dead and gone, our children can not only see our pictures but they can *hear* the well-known tones of our voices—yes, long after we are laid away in the silent tomb. The wonders of electricity are astonishing us day by day. One of the papers recently stated that Edison had invented a storage battery not much larger nor heavier than a well-filled suit-case that would run a little automobile a hundred miles, and it could be stored in *four minutes*. Perhaps this was an exaggeration, but something like it is fast coming. Wireless telegraphy goes around the world. It is going to help us explore the north and south poles if there is any thing there *worth* exploring. We are to have wireless telephones, and perhaps wireless transmission of power. Flying-machines now carry packages to vessels out on the sea, and come back again.

In speaking of these wonderful achievements in the way of science and industry, about two years ago I asked the readers of GLEANINGS what would be the next; and a good brother away off in California answered me that our *Lord Jesus Christ* was coming back to the earth with healing in his wings; and I honestly believe that the Holy Ghost has commissioned me this sunny afternoon in July, 1911, to tell you *how* and

in what *shape* he is going to answer the prayers of his people.

Now, dear friends, please do not be startled, and hastily decide that your old friend A. I. Root has for *once* in his life got off his base when he announces to you that the next stride in the way of lessening human *miserly, sin, and crime* will be in the line of *preventing people from being born*. Jesus just once in his life said of a certain person (Judas), in the language of our text, "It had been better for that man if he had not been born." Sometimes we are tempted by Satan to say, "I wish I had never been born." This, of course, is a wrong and wicked thought. No one who has ever been accorded the gift of a human life should ever so far forget himself in ingratitude to his Creator as to make such a speech or harbor such a thought. After God has given us a human life to live, it is our first duty to thank him for it, and, next, to make the best possible *use* of existence. Now, do not misunderstand me. When God issued the command, "Thou shalt not kill," I am sure he meant it to include *ourselves*. We have no right to hasten our death in any way. I am sure of this; and I feel impressed, also, that we have no right under any circumstances to *hasten* the death of *any* one. It is a sacred and solemn gift from the great Creator, and we should preserve it under all circumstances to the last minute. Notwithstanding this, I firmly believe the time is coming when it will be right and proper to restrict the indiscriminate peopling of the world with *criminals and imbeciles*. In the issue of the Cleveland *Plain Dealer* for July 22 the Board of Health of the State of Ohio has an article on the "sterilization of those who are mentally defective." Dr. R. H. Grube, of Xenia, O., in an address, said, in speaking of our asylums for imbeciles and insane, "Two-thirds of the inmates of these institutions ought never to have been born." Further along in his address he says, "The State of Ohio is paying more attention to the extermination of hog cholera than it is to the work of preventing the propagation of imbecile citizens." Further along he says, "In the State institution at Jeffersonville, Ind., there have been 500 cases of sterilization, without a fatality or harmful result, and to the vast betterment, both mental and physical, of the unfortunates." Just one more quotation: "In one institution in Indiana is a woman, born semi-imbecile, who has seven children, all imbeciles, and a burden to themselves and to society. The development of that family was a crime, the like of which that State now wisely prevents."

Now, pardon me, dear readers, if I take a stand that I have never taken before; and I believe it is the Holy Spirit speaking through me that suggests this measure. Last Sunday afternoon the Root Co. and all our neigh-



borhood were rejoicing because of a telegram from our good friend Mr. Udo Toepperwein, of San Antonio, Texas, saying that his great State had "gone dry as powder," and I was going to announce it to our readers in this journal, with much rejoicing; but since then the papers tell us that the rejoicing was premature. The great State of Texas, the biggest one of the Union, has gone wet by the insignificant majority of 6000. Now, why is it, friends, that God has seen fit to withhold, for the time being, the answers to the prayers of his people? It is because we have, in our stupid selfishness, permitted a host of *imbeciles and degenerates* to be born that *should have never been born*. The conflict now going on all over our land seems to indicate that vicious men who have no regard for man nor God, nor fear of the Devil, come pretty near *overbalancing* the good, and that emancipation, not only of our own country, but of the *whole wide world*, must come in by stopping certain people from becoming parents and others *from being born*. But that is not all there is to be done. While we stop needless burdens on one hand, we must, with equal alacrity, encourage the birth of good men and women. There are not only childless homes with good God-fearing parents, but there are thousands of homes with only two or three children, where the world would have been greatly benefited by four or six, and possibly more. Look back across the ages, and view the good and great who have come out of large families of children.

The *American Magazine* for August has a beautiful story illustrating this point. The professor, who is the hero of the story, says to the woman of his choice (one of a family of eight children), when she spoke of the misfortune of being brought up in such a large family with small means, this hero (for such he was) said to her, "In these days when a woman thinks she is entitled to ignore entirely the question of children, if she feels that way, or at most to bring up one or two that the family income provides for luxuriously and easily, there's something magnificent in a woman like your mother, who starts *eight* destinies instead of one. Responsibility—that's what people are afraid of. But it seems to me there is no responsibility like that of decreeing that young lives simply *shall not be*. There's a higher tribunal than the social tribunal of this world, Miss Paget, after all, and it seems to me that a woman who stands there, as your mother will, with a forest of new lives about her, and a record like hers, will—will find she has a friend at court."

And I suggest he might have added, "My dear girl, had your good parents thought that *two or three* children were enough, *you*, my priceless treasure, would never have *known existence*."

The world is going wild over poultry. Every page of the poultry-journals is urging getting rid of the scrubs, and breeding only from the best. Do not, by any manner of means, let any poultry remain in your flock

that lays crooked eggs, and that has the egg-eating habit or any other trait that you do not want. Breed from the best; and in bringing things along this line to a high degree of perfection, Kellerstrass gets \$2.00 an egg, and \$100 or more for choice males up to the standard. And so it is all through creation, with plants and animals; and yet as I write, hardly has there been a suggestion made in the way of improving humanity, created in *God's own image*. We can not kill off our criminals as they do the "undesirable citizens" in the poultry-yard; but, may God be praised, we *can*, without doing any great harm to anybody, stop peopling the earth with fools and midnight assassins. I know that bad men *can* be "born again," as in the case of Jerry McCauley and other famous workers in the slums of our great cities; also George Müller, who did so much for the poor of London. Let us go on preaching the gospel, and converting sinners as far as it is possible to convert them, and turn them from the error of their ways; but at the same time let strict laws be enacted to prevent the hoards of criminals that now burden our public institutions, and prey on our hard-working innocent people.

Let me give you a brief illustration of the possible depravity of a human being. A few days ago, in the streets of Cleveland, a tramp accosted a man who looked kindly and benevolent, telling him he was hungry, without work, etc. The good Samaritan took him into a restaurant, paid for a good square meal for this tramp, and then told him where he thought he could find a place to work, etc. While doing so he made a short cut through an alley. When half way through the alley this imp of Satan in human form knocked down his benefactor and robbed him of his watch and money, and left him wounded and bleeding, to be cared for by the police. What shall we do with such a man? If caught, I should say *sterilize* him, and then imprison him for life unless there is some good evidence that he has really *repented* of his former wicked life.\*

The Cleveland papers tell us that crime is on the increase. Ever since the mayor raised the lid and told the delegation of ministers that he was going to enforce the law according to the *people's* wishes, and not according to his *oath of office*, crime has been on the increase, and criminals have flocked into Cleveland because they saw in the papers that the saloons were again open all night and Sundays. Now, I honestly believe, and I do not hesitate to say of the man who robbed the one who gave him his supper, it were better for him, as the Savior said of Judas, if he had never been born; and it is our Christian duty, as citizens of our great country, and as God's children, to put a stop to giving birth to such men as far as we can; and I do not know but it would

\*Two of the best of our presidents, as you may recall, were foully murdered by men who ought "never to have been born." In fact, it was a stupid blunder to permit such degenerates as they were to *have a place* on this world of ours.

have been better if some of the mayors of some of our *great cities had never been born*. But since they are *already* born, we ought to have enough good men and women to prevent their being put into such important offices for the protection of our people. May God be praised that the State of Indiana has made a break, and already declares she is going to *stop* breeding criminals. Is it not of as much importance to breed good citizens as it is to encourage a *better* strain of poultry, horses, cattle, and *swine*? May God help us in this new commission that seems to have just recently been placed on our shoulders.

While dictating the above article a clipping from the *Cleveland Press* of July 22 was handed me. The quotation below is from Edward R. Johnstone, superintendent of the New Jersey home for the feeble-minded, and from his talk we judge he is authoritative:

There are 300,000 feeble-minded persons running at large in the United States, outside of institutions, says Johnstone.

"Idiocy is a matter of heredity," he says. "We have traced many cases, and have uncovered some terrible proofs. Most of our efforts are being directed toward preventing idiocy.

"Over 100 years ago a young man of a proud family, with a huge family tree, wronged a feeble-minded girl in an eastern village. Then he went his way, married a girl of fine family, reared children, and died, highly reputed, in 1837.

"But the feeble-minded girl gave birth to a son of feeble mind. And this son became the father of 13 children, several of whom were idiots. The busy, changing world didn't pay any attention to the terrible thing that was going on. One of the feeble-minded sons married a feeble-minded woman. They had 19 children! Civilization paid no heed, not any more than it does to-day to the marriage of incompetents.

"One of their feeble-minded sons found a feeble-minded woman. No one stopped them; they brought 11 children into the world! One of their idiot daughters lived with four or five different men, and bore 11 children.

"And the last one in the line of horrors is a little girl, in our institution, who has the mind of a child of two!

"I believe in segregating or performing operations upon all men and women whose marriage would produce defective children. This one youth who wronged the feeble-minded girl over a century ago was the ancestor, through this girl, of 1146 human beings. Of 580 of them we couldn't trace the records. But we found 262 feeble-minded persons, three epileptics, and only 157 normal persons among his illegitimate offspring."

So far as we can discover, the above statements are too terribly true. Not only the United States but the whole wide world has been guilty of prolonging this terrible wrong, this fearful curse on humanity, and allowing it to go unrebuked. From the above it would seem that medical science at the present day is equal to the task of rendering *women* sterile as well as men. May God help us to do our duty.

As we go to press I have not been able to determine just how far feeble-minded persons are permitted to vote. Very likely most of them would not of themselves care to vote or think of voting; but with the present craze for votes by any "hook or crook," it is not unlikely that many feeble-minded men have been permitted or bribed to help perpetuate crime. I suppose that *cruelty* will be suggested; but even if this is true, what

is this little cruelty now compared to cursing unborn generations?

Another point comes in right here. Are there not persons who honestly *wish they had "never been born"*? We have proof of this in the number of suicides that are becoming more and more frequent; and I believe that investigation will show that most of these suicides were persons not fit or competent to become fathers and mothers. They consider their lives so worthless that they ruthlessly throw them away. It may be well to remember right here that our saloons, as has been abundantly demonstrated, are, more than any other one thing, responsible for bringing into the world cripples, idiots, and imbeciles. The saloons help to keep up this army of degenerates, and the army of degenerates help to keep up the saloons. Shall they any longer be permitted to make our laws and to block the way of enforcing such righteous legislation as has just been, by a narrow majority, a failure in the great State of Texas?

Just as I was closing up the above I found in our copy-drawer something along the same line, sent us several weeks ago, as follows:

Whatsoever a man soweth, that shall he also reap.—GAL. 6:7.

*Mr. Root:*—In my work, which is preparing work for the bindery in the college library here, I collected a volume of your interesting papers on bee culture. I found in them a space devoted to temperance. In collecting the October number of "Survey" I found a powerful temperance lecture. It is not long, nor is it of the stereotyped edition. It was this: "A man, an alcoholic, married a feeble-minded woman, a daughter of alcoholic parents. The offspring of the union were three miscarriages and eight feeble-minded children—one of whom was deaf. Seven of these children are at large."

Oberlin, O., April 20.

EMMA J. CARL.

It would not be at all strange that a drinking man should take up and marry a feeble-minded woman, the daughter of alcoholic parents. The brief clipping does not tell what the *outcome* was of turning loose *eight* feeble-minded people. It does not even suggest how far the curse extended down through future generations; nor does it tell how much it cost to keep up asylums and prisons to care for such progeny. May God be praised that there is now a widespread movement on foot to *forbid* marriage, by proper laws. State and national, in cases like the above.

#### SELLING GOODS AT A FAIR AND HONEST MARGIN OR PROFIT, ETC.

After the Home paper for July 15 had gone to press, another reason occurred to me for selling goods on a small margin. If for any reason your customer wants to return the goods you can, if sold "close," take them back and give him his money, without much loss or inconvenience to yourself. Let me give you an illustration. Fifty years ago I put up a sign and started business as a jeweler and watchmaker. As there were two other shops of the same kind already in our little town, I knew I would have to work hard to succeed. After I had been in business perhaps a year or a little more I ventured to put in a stock of watch-



es. I had one watch that in those days was considered a pretty fine timepiece. I think the price was twenty or twenty-five dollars. I finally succeeded in selling it to an old gentleman who seemed very cautious and careful, and I spent considerable time with him in making the trade. A few days afterward he came back and laid the watch on the showcase. I asked him if there was anything wrong with it. He said there was nothing wrong at all, for it was just on the mark with my regulator, and he spoke something as follows:

"Mr. Root, the watch is all right, as you say; but now if I tell you I have changed my mind, and would rather not have the watch, how much money can you afford to give me for it and take it back?"

It was a great disappointment to me, for I was short of funds, being new in the business, and I thought hard for a second or two. Finally I made my decision, and then looked up in his face and said, "Mr. C., I sold the watch to you, as I said, at a small profit compared with the usual profit on watches; but under the circumstances I will take it back and give you *just what you paid for it*."

Said he, "My young friend, if you really think you can *afford* to do that I should be very glad to have the money in place of the watch."

With a rather disappointed feeling in my heart I did the best I could to look cheerful while I reached into my drawer and count-

ed out the necessary sum he had paid me. I was going to take the watch and put it back in the showcase. Then came one of my "happy surprises." He began to laugh, and pushed the money back toward me, saying, "Here, my boy, put your money back in the drawer. I was just testing you. A friend of mine told me when I got home that I had been swindled. He said the watch was not worth half what I paid for it, and declared *you* would not give *half price* for it back again. Now, I have lived long enough to know something about human nature, and I told this man that I felt sure I could not be mistaken. I said that frank, honest-looking boy would not take more than a fair price for the watch; and now I have proved you, and you have come out of the ordeal just as I *expected* you would. I will do what I can to help you build up a business on that basis."

From that time forward, as long as the old gentleman lived he was a staunch friend of mine; and as he was an old, well-known, and prominent citizen, it was worth a lot to me. I think I have mentioned before that the two other jewelers, before many years, dropped out and left the trade all in my hands. Now, with the above in view you can readily understand that it was no particular disappointment on my side when something unexpected transpired so that the dear old "cabin in the woods" in Northern Michigan is back in my hands again.

## Health Notes

### POSTUM CEREAL COFFEE, AND SOMETHING IN REGARD TO OTHER COFFEE SUBSTITUTES.

Even if the Postum Cereal Co. has made a million or more with Postum and grape-nuts, I think the whole wide world can give them a vote of thanks for having *awakened* the whole nation to the damaging effect of coffee and other unnatural stimulants; and it is really almost laughable to think that a man should *get rich* by showing up the harmful effects of coffee that is put forth by means of some of the most extravagant advertising ever seen. While we have used Postum cereal in our home, and like it very much, Mrs. Root and I have often wondered why they should put the price even higher than that of real coffee, and why the people should be willing to *pay* an extravagant price for something that could be made at home for about *one-tenth* of what the Postum cereal costs; and why do they continue to keep up such extravagant prices for something made of wheat, molasses, etc.?

There has been a great deal said about short cuts between the producer and consumer. The farmer raises wheat, and gets for it 80 or 90 cts. a bushel. He usually sells the whole crop and then goes and buys a sack of flour, that has passed through half

a dozen hands from the wheat he has just sold, to the grocer's counter, giving each middleman a good profit. Perhaps at the same time he buys the sack of flour he gets a package of Postum cereal, paying 25 cts. per lb. for the wheat he has just sold for a little over 1 ct. per lb. Well, this matter was just brought to mind by a little bag of roasted wheat containing a postal card which reads as follows:

I mail you to-day a sample of our roasted wheat—best made in percolator. Let it pump 30 minutes or more; teaspoon heaping full for 2 cups. I put in some ground as we use it—enough for 8 cups; not good unless ground. Keep it in a sealed can. You will grow to like it—entirely wholesome—"wheat soup," made of choice wheat, pure New Orleans molasses, and a little best butter, cost about 3 cents a pound!

T. B. TERRY.

Feb. 18.

We clip also the following from a recent number of the *Practical Farmer*:

#### TWENTY-SIX CUPS OF CEREAL DRINK FOR ONE CENT.

Some weeks ago I sent samples of our roasted wheat "coffee" to officers of the largest manufacturing firm of its kind in the world. Three of them have tested it and reported. The president says: "We and I like it very much; in fact, better than any other of the cereal drinks that we have tried." Another officer says: "We tried your cereal drink for several mornings, and enjoyed it greatly. We have used other cereal drinks at our home, but like yours better, even if it does not cost 25 cts. a pound. We have your directions for making it, which were in *The Practical Farmer* for Jan 28." These are the

straight opinions of wealthy business men. They are too well posted to drink tea and coffee. And notice they have saved the article telling how to roast the wheat; and it need cost you only 3 cents a pound and the trouble of roasting; 26 cups for one cent! And it is good. And there is no enormous profit going to make millionaires of manufacturers.

T. B. TERRY.

I suppose the above refers to our establishment, because we are probably the largest manufacturers of bee-supplies in the world. Now about real coffee. Two or three times a year I drink real coffee—sometimes, but not often, *strong* coffee, such as is usually served at public eating-places. I never take a full cup, however, for it is too strong for me. I call for half a cup, and then I fill it up with milk. Some of you may ask why I drink coffee at all. It is because I want to keep tab on the customs of our people; and I want to study the effect on myself. Of course, in using coffee so seldom, it produces an unusual effect. Half a cupful of strong coffee, even at mealtime, banishes sleep, and makes me talkative, or inclined to be so; for I hope I have enough good sense to keep still when I am under the influence of any stimulant. I do not know but coffee may have a necessary place in diet, or, rather, in medicine. When I am obliged to be up late at night, or traveling, or at a lecture, a little strong coffee helps me amazingly to hold out; but I am not at all certain that it is the proper thing to use coffee, even in such a case. When one is sick or faint when traveling, a little coffee will brace him up until he gets home, and may be it is all right; but one who wants to live to a good old age, and to preserve his strength and faculties, certainly can not afford to use real coffee; and I for one greatly *prefer* wheat coffee or "wheat soup," as friend Terry is pleased to term it.

A. T. COOK'S DOMESTIC COFFEE-BERRY.

By the way, I have just been testing Cook's coffee-berry. Of course, it is not a new thing; but after using Terry's wheat coffee I thought I would try the soja-bean coffee once more; and I am glad to say that I find it very nutritious, and pleasant to taste; in fact, I like it for a change fully as well as the wheat coffee; and, by the way, I notice by the papers that the soja bean is rapidly coming to the front as a very nutritious and cheap food for all kinds of domestic animals. The berries themselves, or beans, if you choose, contain a larger proportion of nutritious food than almost any other article of diet; besides, as the plant is a legume it greatly improves the soil where it grows by taking nitrogen from the air. All sorts of crops grow ranker and stronger in the ground where a crop of soja beans has been entirely removed. If plowed under as we do clover, it is, perhaps, one of the best if not the best plant in the world to bring up the fertility of worn-out or exhausted soils.

Friend Cook says in his catalog the coffee berry is a "big thing" for chickens, and I notice the *Petaluna Weekly* advertises soja bean meal as a substitute for meat for poultry. I have now a beautiful stand of it in our garden.

#### A BREAKFAST FOOD AT LESS THAN TWO CENTS A POUND, EQUAL OR SUPERIOR TO ANY THING ON THE MARKET.

Mr. A. I. Root:—I have read your writings for a number of years, and like them very much, especially those about health foods. We have a way of preparing wheat which I think makes a better breakfast food than any on the market, and at the very cheap price of one and a half cents a pound—that is, at the retail price of wheat here. It is cheap, healthful, and delicious, and very easy to prepare. Sprout clean wheat, grind in a food-chopper, and bake till crisp. If it is boiled for ten minute before grinding it will grind easier. It may be eaten like grape nuts' without further preparation, or may be cooked like rolled oats, but not so long.

North Yakima, Wash., Feb. 18. V. V. DEXTER.

Many thanks, my good friend Dexter; and I will say to our readers that, while I have not yet had time to test what he recommends, I feel absolutely sure it will prove to be all our friend says in regard to it. While sprouting oats for chickens of all ages during the past winter (and we have been doing it continuously) I have often thought that sprouted grains would be a delicious and nourishing food for the human family. The Chinese already have sprouted peas on the market; and the malted-nuts preparation is, if I am correct, the result of sprouting the nuts. During the past winter a great part of our food has been clean wheat, grown right here in Medina last year on our own farm, and ground in a little hand mill I have frequently mentioned. Set the mill so as just to break the wheat grain; then with a sieve take out the fine flour, which makes better graham bread than any graham flour that can be found on the market. The ground wheat that does not go through the sieve is then cooked in a double boiler, cooking it several hours. This form of breakfast food served with butter, cream, and good honey, is about the most delicious food I ever ate, and also one of the most healthful and nourishing. In writing to T. B. Terry, Ernest made the remark a few days ago that it was a dish fit for a king. Terry published it in the *Practical Farmer* and I can fully indorse the statement. Now, then, let us go to work and have *sprouted* wheat for the people, just as we have been having sprouted oats for chickens; and I am sure that multitudes will find there is nothing better in the way of a cheap, nourishing, and healthful food.

#### OUR GOVERNMENT'S CHEMIST'S OPINION OF THE DRUG BUSINESS.

We clip the following from the *Union Signal* of May 11:

Dr. Harvey Wiley, government food and drug expert, says: "Unless something is speedily done to stop the growth of the drug habit, the United States will become a nation of weak-minded and befuddled people!" He attributes the large and ever increasing number of dope fiends to the fact that doctors prescribe harmful drugs when not at all necessary, and says a physician should never prescribe opium or morphine unless it is for the purpose of saving life, for when a drug is given for some trivial illness, the odds are strong that the patient will continue to take the drug and will finally become a slave to the habit.

May God be praised that we have a government chemist who is not afraid to speak out God's truth, and who can not be bribed



to favor any business speculation, especially where it touches on the health and well being of the people of our nation.

#### CUTICURA AND SOME OTHER THINGS; A CORRECTION.

Dear Mr. Root:—In your health notes for March I you speak of a spot on your back that you thought was eczema. For nearly 30 years prior to February, 1910, I was troubled with a spot on the inside of my left leg, near the groin. It grew till about three inches in diameter, and at times itched intolerably. I used cuticura soap, but to no avail. In February, 1910, I had a violent spell of sickness which lasted into March. When I got well I found the itching spot on my leg was entirely gone, and I have not had the least indication of it since. Nothing at all was done to cure it during my sickness. In fact, the doctor never knew of it, as I did not tell him.

Electropoise and Oxydonor are the most contemptible things that were ever sent out to gull the public.

Peru, Ill., March 28.

E. H. WHITAKER.

Well, friend W., from the above it would

appear that a "violent spell of sickness" sometimes does a body good; and I want to express a hearty amen to your closing sentence concerning Electropoise and Oxydonor. For some reason or other I have not yet been able to get our State, or, better still, the United States, to take hold of this thing.

By the way, several of our subscribers have called my attention to a mistake that the printers made when I spoke of 50 cents a box for the Cuticura ointment. What I said, or meant to say, was that this 50-cent box contained not much more than a *tablespoonful*. By a blunder, when it got into print it read *teaspoonful*. To come right down to fact, the box contains about *five* level tablespoonfuls. God knows I did not mean to be unfair with the Cuticura people, especially as the spot on my back has never reappeared; in fact, it is a hard matter now to find even the scar of it.

## Temperance

#### THE EXPRESS COMPANIES AND THE LIQUOR-TRAFFIC IN PROHIBITION TERRITORY.

I have just clipped the following from the *Chicago Advance*:

Approximately 20,000,000 gallons of liquors annually are shipped by express, principally from mail-order houses, direct to consumers in prohibitive States. This startling fact was developed in an inquiry conducted by the interstate-commerce commission into proposed changes in express classifications which resulted in an advance of rates on packages containing liquor. Jacksonville, Fla., probably the largest shipping-point for liquor in the South, sends out between three and four thousand packages of one or two gallons daily, and Norfolk, Va., Cairo, Ill., Emporia, Va., Louisville, Ky., Portsmouth, Va., Roanoke, Va., and Savannah, Ga., ship more than 100,000 gallons each annually.

I also clip the following from the *Freight-payer and Consumer*:

The decision of the Supreme Court, that this traffic was interstate, and superior to interference by the State governments, gave the industry a tremendous impetus, and established the express companies as the carriers of practically the whole of this traffic.

The movement is more active in the South than in other sections of the country, partly because of the extent of the prohibition territory there, and partly because of the large quantities of very cheap whisky manufactured and shipped there for the consumption of the negro population."

I hardly need remind our friends that there is already a nation-wide protest against the exorbitant charges we are obliged to pay the express companies, and because they are blocking parcels post, which would, of course, break down their schedule for carrying stuff. Well, *this* is bad enough; but when it transpires that we can not enforce prohibition just because the express companies of the United States have discovered that there is "big business" in going into the liquor-traffic, the last straw is being added to the load the hard-working people have been carrying. Several times in my life, while remonstrating with friends of mine who have "acquired the appetite," I have

been told they had *got* to have the drink, as they could not *live* without it. People in such circumstances generally have very little means to supply the demands of appetite. Oftentimes—in fact, almost always—there is a poor wife and mother and a lot of hungry children dependent on this unfortunate slave of drink. Well, in addition to the high price consumers have to pay on liquors, in the way of licenses, government tax, etc. (it is a tremendous one too), as you will notice in the above clipping, the express people have *advanced* their rates for carrying *liquors*. I have before reminded you that, when we go down to our Florida home, a great lot of express packages of all sorts and sizes are dumped off at every little railroad station. I have since been told that these packages are liquors from dealers here in the North. A large portion of these express packages are called for by colored people, and our last clipping explains it. We have a United States law forbidding the sale of intoxicating liquors to Indians, because under its influence they become crazy drunk and commit crime. Now, why in the world should there not be a law made to keep the same liquors out of the hands of the colored people—especially the lazy and dissolute? They have committed crime, and are committing crimes, mostly under the influence of liquor, that a respectable magazine would hardly want to name in print—crimes that our American Indians have *never* been guilty of so far as I can discover. Now, after we by hard work, and by the expenditure of much money, have made many counties, towns, cities, and States dry territory, why in the world should these express companies *continue* robbing our hard-working people? why should they be permitted to *undo* our temperance work, and bring the results to naught because they are going

to get a little more money out of it? May God help us in our efforts to cause a halt on the express companies, in just the same way we have succeeded in calling a halt on the brewers and distillers.

#### THE FIGHT FOR RIGHTEOUNESS IN LOUISIANA.

I am enclosing you some newspaper clippings of the fight against the return of saloons in Caddo Parish and in Shreveport, the second largest city in the State. We are often accused of being a lot of crawfish-eating, wine-drinking, crazy Frenchmen who don't know when Sunday comes. Well, I must admit that some of us, at least, are not what we should be; but we are trying to ditch and reclaim some of the low lands and whisky districts; and if we don't succeed, we are going to raise a lot of men and women who *will*. Read the clipping, and tell us what you think of Louisiana and its people.

Montrose, La., June 2.

O. A. LILLEY.

I will explain to our readers that Bro. Lilley sent a long clipping from which I extract the following:

The prettiest part of the parade was the baby battalion, which was headed by a baby carriage drawn by eight little tots. The buggy was beautifully decorated in white, and above the little baby in the buggy was the white dove of peace. Following these came a number of mothers pushing their babies, and after these came ladies, some with children by their sides, and some carrying little tots in their arms.

The air was hot and sultry; but amid the dust of the streets the eyes of all seemed to shine with a holy light of determination which made possible in other ages the crusades when men, women, and children marched across the hot sands to win back the Holy Sepulcher, only to die in the fruitless effort.

I want to say to him and all others who are fighting and praying, that there is no question in regard to success if the good people do not lose their enthusiasm and backslide. It is true that the saloons have come back into a few towns and counties; but investigation has invariably shown that it was because so many people had a notion that the "drys" were going to win any way that they stayed away and did not vote. Just think of it, friends, if you have not already done so. While these mothers and fathers and the little children are fighting for every thing that is good and pure and holy, the opposing party have nothing to offer in defense of their traffic, except that they want the nickels that justly belong to these hard-working men, women, and children.

#### OVER \$5000 FINE, AND A YEAR IN JAIL.

We clip the following from the *Rural New-Yorker*:

The severest sentence ever imposed on a violator of the local-option law in Douglas County, Ill., was given to Horace W. Sorrells by Judge Dolson at Tuscola, Ill., May 3. Sorrells was sentenced to 360 days in the county jail, was fined \$4900, and must pay \$556 court costs.

May the Lord be praised that our nation of people are waking up to the importance of law-enforcement—especially to the importance of punishing those who do not heed our local-option laws. Defiance of law of any sort is a serious matter; but when our States and counties have enacted righteous laws to keep intoxicants away from our children, and older ones who need protection, it is of the utmost importance that

"transgressors" be speedily taught that their "way" is indeed "hard."

#### THE SUNDAY-SCHOOL MAN AND BREWER.

The following was sent us with a kind letter from a man who says he is going to take GLEANINGS as long as he lives, even if it does not say a word about bees:

*Dear Mr. Root:*—I send you a clipping from my county paper that gives one good reason why the wet vote wins out in some places. I hope the day is coming when at least all Sunday-school men will vote dry.

Along in November, when chill was the weather,

Two ballots were cast in a box together—

Two ballots were cast in together.

They nestled up close like brother to brother;

You couldn't tell one of the votes from the other—

You couldn't tell one from the other.

They were both run votes, and sanctioned the license plan,

But one was cast by a jolly old brewer,

And one by a Sunday-school man.

Lake Cicott, Ind., July 17. THOS. C. JOHNSON.

Yes, my good brother, in times past the Sunday-school man and the brewer have, at least to a great extent, been voting the same ticket; but, may the Lord be praised, just now the Sunday-school man and the brewer seem to be parting company for good and for ever.

#### CONDITION POWDERS, ETC., FOR POULTRY AND OTHER DOMESTIC ANIMALS.

On page 381 I spoke of what the North Carolina Experiment Station was doing about "poultry tonics." Well, the following clipping from the *North Carolina Progressive Farmer* gives some of their reasons for charging a dollar for their paper:

#### NO PATENT STOCK FOODS.

We are not in partnership with any of the schemers who would swindle you. For example, one of the most outrageous frauds being perpetrated on the American farmer is that of prepared stock foods—common meal, bran, etc., with a little cheap sulphur, salt, Epsom salts, pepper, salt-peter, etc., added to change the taste, and the mixture (hardly more valuable than ordinary ship stuff) put up in flaming packages advertised in big illustrated advertisements in farm papers, and sold to gullible farmers at from \$250 to \$2250 a ton. And yet *The Progressive Farmer* is the only leading farm paper in the country in which you will not find these stock foods advertised—the only paper that has dared stand by the farmers and expose the whole miserable fraud. Some time ago the chief Southern contributor of one of the farm papers most largely circulated in our territory wrote an article giving the truth about this gigantic swindle, and sent it to this same paper. The reply came back: "The Stock Food Company pays us \$3000 a year for advertising, and we should lose if we were to print your letter. Please don't insist."

This was that farm paper's policy; and if *The Progressive Farmer* would consent to take \$3000 or \$4000 a year for helping foreign corporations swindle you into paying \$2000 a ton for flavored wheat bran—oh, yes! we might sell you our paper for 50 cents, or 25 cents a year, or we might even be able to give it away in clubbing offers with your county paper. But we are not going to do it.

Their concluding argument touches on a point that should be considered by the editor of every home paper. Is the periodical published for the benefit of the farmer and to protect his interests, or is it published to exploit some patent-medicine advertising? If the latter, do not be surprised and do not complain, if you find your paper in a little while without subscribers.